TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

FIBER FORMATION IN NATURAL AND SYNTHETIC POLYPEPTIDES. F. Happey. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B153-B175. (1187)

Work concerning the preparation and properties of fibers from natural and synthetic polypeptides is discussed. The information is related to the biophysical characteristics of wool and wool proteins. X-ray diagrams. 49 references.

CRYSTALLITE ORIENTATION IN SOME CELLULOSE FIBERS. V. D. Gupta (Allahabad Univ.). (Letter to the editor). J. Polymer Sci. 24: 317-319 (Apr. 1957). (1188)

X-ray studies on bright and dull viscose rayon yarn and on native and delignified jute. 6 references.

NATURAL FIBERS A 1

RELATION BETWEEN THE X-RAY ANGLE OF COTTONS AND THEIR FIBER MECHANICAL PROPERTIES. L. Rebenfeld and W. P. Virgin (Textile Research Inst.). Textile Research J. 27: 286-289 (Apr. 1957). (1189)

Correlations are presented between the spiral angle and the mechanical properties of 16 cottons. A significant correlation is found for Pressley strength at zero gauge length; however, virtually no correlations exist when cotton strength is measured at 5.0-mm. gauge length. Highly significant correlations are found between the spiral angle and the extensibility properties of cotton fibers, as measured by single fiber elastic modulus and elongation to break. 14 references.

EVALUATION OF THE YARN PROPERTIES OF A HIGH-STRENGTH INTERSPECIES COTTON. J. J. Brown, N. A. Howell, L. A. Fiori, J. E. Sands and H. W. Little (Southern Regional Res. Lab.). Textile Research J. 27: 332-339 (Apr. 1957). (1190)

In a comparison of the physical properties of yarns made from a high-strength Interspecies cotton with the physical properties of yarns spun from several well-known cottons of varying fiber properties, it was found that yarns made from the Interspecies cotton were as strong as those made from the much longer and finer Karnak cotton and stronger than those made from the other cottons. Tables. Graphs. 9 references.

COTTON QUALITY STATISTICS, UNITED STATES, 1955-56. U. S. Agricultural Marketing Service, Washington 25, D. C. Feb. 1957. 60 p. Statistical bull. no. 202. Order from Superintendent of Documents, Washington 25, D. C. 35 cents. (1191)

STRUCTURAL IMPERFECTIONS IN RAMIE AND JUTE. B. L. Banerjee and M. K. Sen (Indian Jute Mills Assoc. Res. Inst.). Textile Research J. 27: 313-317 (Apr. 1957). (1192)

Variation in tensile strength of ramie and jute with increase in specimen length was studied, and the degree of imperfections in the fibers estimated. The effect of water and mercerization on the number of flaws and the strength were also studied. Tables. Graphs. Diagram. 19 references.

FLAX DRESSING. Textile Recorder 74: 60-61, 72 (Apr. 1957). (1193)

Recommendations on hand dressing, machine settings, and speeds for ensuring efficient hackling and a maximum yield of line fiber. Diagrams. Tables.

ZURICH SILK INDUSTRY. Ciba Rev. No. 119: 2-32 (Mar. 1957). (1194)

Profile of the Zurich silk industry, by H. Honegger, p. 2-5; History of the Zurich silk industry, by M. Schindler-Ott, p. 6-12; Structure of the Zurich silk industry, by M. Schindler-Ott, p. 13-16; Zurich silks in past fashions, by M. Schindler-Ott, p. 17-20; Silk dyeing, by W. A. Vetterli, p. 21-25; The Zurich silk industry today, by U. Geilinger, p. 26-31. 37 references.

EXTENSION, CONTRACTION, AND SUPERCONTRACTION OF WOOL FIBERS. R. W. Burley. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D88-D117. (1195)

The effect of the interaction between sulfhydryl groups and disulfide bonds on the extension, contraction, and supercontraction of wool fibers is examined. Graphs. Tables. 52 references.

TWO-ENERGY-STATE MODEL FOR THE STRESS RELAXATION AND CREEP OF WOOL FIBERS IN WATER. M. Feughelman and B. J. Rigby. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D62-D70. (1196)

CONFIGURATION AND STRAIN ANALYSIS OF SINGLE WOOL FIBERS IN WORSTED TOP AND YARN MANUFACTURE. M. Chaikin, K. Baird, A. G. Stutter and J. Curtis. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E168-E180. (1197)

Changes in the crimp and strain level of wool fibers passed through a variety of processes employed in worsted-yarn manufacture are studied by means of a radioactive-tracer technique. Tables. Autoradiographs of fiber configuration during processing. 10 references.

INTERACTION OF WOOL AND WATER. PART 1. DIFFUSION OF WATER IN WOOL FIBERS. A. R. Haly and N. F. Roberts. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D182-D194. (1198)

Curves of diffusion-controlled regain vs. time for wool fibers under a variety of conditions are presented. 16 references.

INTERACTION OF WOOL AND WATER. PART 2. RATES OF SWELLING OF SINGLE FIBERS FOLLOWING ABSORPTION OF WATER FROM THE LIQUID PHASE. A. R. Haly. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D195-D201. (1199)

SWELLING PROPERTIES OF WOOL FIBERS. M. Leveau, N. Varney-Cebe and A. Parisot. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D211-D219. (1200)

In considering the relation between the felting and the fiber swelling properties of wool, felting can be considered as arising from the tendency of fibers to bend when they are placed in media which cause the unequal swelling of the two cortical fractions. Other physical properties such as friction or flexing are considered equally important. Photomicrographs. 19 references.

BREAKING STRESS OF WOOL FIBERS AS A FUNCTION OF THEIR DIAMETER. J. Meybeck and G. Gianola. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D134-D147. (1201)

MOLECULAR-MECHANICAL MODEL OF WOOL KERATIN. L. Peters. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D71-D82. (1202)

A molecular-mechanical model is devised to describe the viscoelasticity of the wool-keratin fiber. From data of the equilibrium creep of wool fibers under constant load in water, the theory successfully predicts the stress coefficient of the rate of creep and the magnitude of Young's modulus for either wet or dry keratin fibers. 13 references.

EFFECT OF THE BREAKING OF CYSTINE LINKAGES ON THE MECHANICAL PROPERTIES OF WOOL FIBERS. H. Sobue. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D83-D87. (1203)

LOAD-EXTENSION CURVE FOR WOOL FIBERS OVER THE DECRIMPING RANGE. G. W. Walls. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D118-D133. (1204)

MAN-MADE FIBERS A 2

FUTURE FOR SYNTHETIC FIBERS. F. J. Soday (Chemstrand Corp.). Textile Bull. 83: 68-72 (Apr. 1957). (1205)

Properties, manufacturing methods, and end-uses for synthetic fibers are briefly surveyed to predict a future consumption of four billion pounds in 1975.

MAN-MADE FIBER PRICES AND PROPERTIES. R. W. Moncrieff. Fibres 18; 113-117 (Apr. 1957). (1206)

The factors underlying the disparity in prices of man-made fibers are analyzed, and the comparative market positions of nylon, Terylene, the acrylics, PVC fibers, protein fibers, and cellulose acetates are examined. Table. Photographs.

MECHANICAL BEHAVIOR OF POLYACRYLONITRILE FIBERS IN THE PRESENCE OF AN EXTERNAL PLASTICIZER (WATER). C. E. Reese, A. L. Ruoff and H. Eyring. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D26-D37. (1207)

The three-element hyperbolic-sine model is used to describe the mechanical properties of polyacrylonitrile fibers at various relative humidities. Graphs. 11 references.

FIBERS DERIVED FROM VINYL POLYMERS (ACRYLIC FIBERS). A. J. Hall. Texture 4: 19-21 (Mar. 1957). (1208)

The most important commercial fibers derived from vinyl polymers, including polyvinyl, polyacrylonitrile, polyethylene, and copolymer fibers, are listed according to trade name and their chemistry and properties briefly noted.

DEVELOPMENT AND PRODUCTION OF GLASS FIBERS. D. M. A. Reid (Fibreglass Ltd). Textile Mfr. 83: 186-187 (Apr. 1957). (1209)

The manufacture and processing of glass fiber filament and staple yarns and the properties of fabrics made from them are outlined beginning with early developments in 1938.

YARN PRODUCTION B

SPINNING SYSTEM FOR LONG STAPLE FIBERS. J. Prins. Enka Breda Rayon Rev. 11: 8-16 (Feb. 1957). (1210)

A survey of the machinery for the processing of long-staple fibers on the AKU modified cotton spinning system is described, and the results of two spinning runs are given. Photographs. Diagrams. Tables.

SPINNING STRONG VISCOSE STAPLE. Man-Made Textiles 33: 54-55 (Apr. 1957). (1211)

Recommendations for processing strong Fibro and blends with cotton on the cotton system are given.

SOME COMMON CAUSES OF YARN IRREGULARITY. G. Dakin (Brit. Cotton Ind. Res. Assoc.). Textile Wkly. 57: 880, 882, 914 (Mar. 29, 1957); 979-982 (Apr. 5, 1957). (1212)

Part 1. Unevenness is discussed in terms of random and periodic variations. Part 2. Each process in the spinning mill is considered in connection with the kind of unevenness it introduces into the yarn.

WASTE SPINNING. S. Hand (Joshua Milne Ltd). Textile Wkly. 57: 1032-1034 (Apr. 12, 1957); 1147-1150 (Apr. 19, 1957). (1213)

Condenser and preparation systems, dust extractors, carding systems, ring frames, and 3-speed mules are discussed.

FIBER BREAKAGE IN EARLY WORSTED PROCESSING. R. Bownass. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E203-E215. (1214)

Fiber breakages occurring during experimental and commercial scouring, carding, gilling, and combing are considered. Graphs. Tables.

TECHNICAL PROGRESS IN SPINNING. G. Dakin (Shirley Inst.). Textile Wkly. 57: 1109-1112, 1162-1166 (Apr. 19, 1957); 1188-1194 (Apr. 26, 1957). (1215)

Methods and instruments for controlling fiber quality, picker lap uniformity, carding conditions, roller vibrations and eccentricity, end-breaks, and yarn uniformity are reviewed. In part 2 future developments in processing machinery through spinning are considered.

PLASTIC OR GLASS SCREENS FOR FLY CONTROL. J. H. Rohs (Chicopee Mills). Textile Ind. 121: 103-105 (May 1957). (1216)

Fly is a real contamination problem where stock dyed or dope dyed staple is run in close proximity to undyed or natural staple, particularly in the card room. Control methods of using fiber glass or saran open-mesh screen partitions or tent-like enclosures for individual pieces of equipment are explained. Photographs.

TEXTILE MACHINERY DEVELOPMENTS AFFECTING THE PROCESSING OF FIBERS IN WORSTED MANUFACTURE. E. E. Feather. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E262-E274. (1217)

Methods of modernization using the Raper autoleveller in both combing and drawing combined with either Ambler super draft or high draft apron spinning are discussed. Diagrams. Tables.

MIXING PROBLEM IN WOOLEN YARN PRODUCTION. P. P. Townend. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E216-E230. (1218)

The effects of fiber length, fiber diameter, and carding conditions on the blending of wools of widely different colors are investigated. Diagram. Tables. Photomicrographs. 11 references.

OPENING, PICKING, FIBER PREPARATION B 1

GETTING THE BEST OUT OF COTTON IN THE BLOWROOM. G. Dakin (Brit. Cotton Ind. Res. Assoc.). Textile Wkly. 57: 663-666 (Mar. 8, 1957); 733-738 (Mar. 15, 1957). (1219)

The basic requirements for opening, cleaning, and blending machinery in attaining a good lap are outlined. Lap evenness is discussed.

STUDIES IN COTTON OPENING AND CLEANING. Z. Szaloki. Whitin Rev. 24: 46-58 (Mar. 1957). (1220)

Some common practices used in opening rooms and the unfavorable results of their use are discussed. Test data are presented to show how these difficulties can be eliminated and the contributions made by the Whitin axi-flo and axi-feed toward improvement in this area. Tables. Graphs. Photograph.

AXI-FEED BLENDER MODELS N4 AND N5. Whitin Rev. 24: 41-45 (Mar. 1957). (1221)

The Whitin axi-feed blender represents a new approach to blending feeder design by providing in a single unit the Whitin blending feeder and the Whitin axi-feed, formerly available only as an accessory. Photographs. Diagrams.

CARDING AND COMBING B 2

SLIVER COILING WITH A LARGE CENTRAL HOLE. Platts Bull. 9, No. 3: 54-58 (1957). (1222)

A series of tests carried out on cans of various sizes has proved that their capacities can be increased between 15% and 35% by the use of a larger hole. A further very important advantage of large hole coiling is the stability of the pile of sliver where it extends above the top of the can, which enables cans to be overfilled without danger of sliver spilling. Tables. Graphs.

COTTON WASTE INDUSTRY. PART 6. WASTE CARDING. Platts Bull. 9, No. 3: 66-71 (1957). (1223)

Following a description of the English and Continental systems of waste carding, the operation and setting of the roller and clearer card, card clothing, stripping and grinding, and dust extraction are discussed. Diagrams.

AUTOMATIC CONTROL OF THE OUTPUT LEVELNESS OF A WOOLEN CARD. G. H. Thorndike, R. T. D. Richards and P. D. Jowett. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E144-E161. (1224)

The action of the woolen card is briefly discussed in relation to variation of wt/unit area of the web as it leaves the card. The results are applied to the design of the Autocount, a device for automatic control of this web weight, taking into account the place of the carding process as an element in the control system. Graphs. Diagrams. Photograph. 16 references.

VARIATIONS BETWEEN WOOLEN SLUBBINGS AND YARNS. PART 2. P. P. Townend and J. M. Bennett (Univ. of Leeds). Textile Recorder 74: 57-59 (Apr. 1957). (1225)

Data on the effect of changes in swift speed and production rates on variations between weights of successive lengths of slubbing and the strength of the yarns spun from the slubbings are presented. Tables. Graphs.

WHITIN SUPER J COMBER. Whitin Rev. 24: 3-19 (Mar. 1957). (1226)

Mechanical and production features are described, and a sequence of 38 high speed photographs is included to illustrate the complete combing cycle. Diagrams.

EFFECT OF DOUBLE CLIPS ON WORSTED PROCESSING. R. Bownass. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E162-E167. (1227)

Investigations on the proportion of double clips in normal combing wools and their effect on combing efficiency and nep formation are described.

FIBER ARRANGEMENT IN WORSTED PROCESSING AND ITS EFFECT ON TEAR IN NOBLE COMBING. P. P. Townend and J. Judson. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E181-E191. (1228)

Report of tracer investigation on the degree of hookiness at the various stages of processing from card to roving, and the effect of the direction of feed in Noble combing on tear and fiber length of the top. 3 references.

DRAWING AND ROVING B 3

FACTORS WHICH INFLUENCE FIBER PICKUP BY DRAFTING ROLLERS. G. King and J. A. Medley. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E192-E202. (1229)

The influence of static, oil content, and roller covering on fiber pickup from a worsted roving by a pair of nip rollers is examined. A mechanism of fiber pickup is discussed, together with theories of oil adhesion. It is also shown how the pickup process may be affected by the geometry of the system. Tables. Diagrams. Photographs. 8 references.

IRREGULARITY OF ROLLER-DRAFTED YARNS. P. Grosberg and R. C. Palmer. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E73-E95. (1230)

A limited theory of drafting, based on the model used by Grosberg, is presented, using three successively more complicated models. The theory can be applied to the detection of faults in drawing given only the B-L curve of the yarn, the count, the drafts used in drawing, and the length and diameter of the fibers. Tables. Graphs. 14 references.

REVIEW OF WORSTED OPEN DRAWING AND SPINNING. J. Ingham. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E42-E62. (1231)

This survey of present knowledge of the traditional Bradford system of drawing oil combed tops includes a review of the basic drawing system, variables encountered in drawing and spinning, color mixing, and measurement of sliver and yarn irregularity, as well as mention of some still unsolved mill problems. Graphs. Tables. 12 references.

2-LINE DRAWING FRAME IN THE 3-CYLINDER SYSTEM. W. H. Peters. Enka Breda Rayon Rev. 11: 1-7 (Feb. 1957). (1232)

Experiments conducted in the A.K.U. experimental yarn-spinning mill with various kinds of man-made fiber for the purpose of ascertaining whether the 2-line drawing frame could be incorporated satisfactorily in its 3-cylinder spinning system are reported. Both with Enkalon staple and with all blended yarns, the regularity of the third passage slivers, as well as that of the material in all further stages of spinning, improves if 2-line drafting is used for the second and finisher drawing frames. The material should undergo normal drafting once after carding so that the fibers may be laid in some sort of parallel order. Tables. Photographs. Diagrams. 3 references.

SPINNING, WINDING, TWISTING B 4

RINGS AND TRAVELERS: 1944-1957. D. Eadie. Textile Merc. 136: 618-622 (Apr. 12, 1957); 674-677 (Apr. 19, 1957). (1233)

Part 1. Travelers: functions, manufacture, performance, speeds, balloon control rings, elliptical spinning travelers, traveler likes and dislikes, nylon travelers, etc. Part 2. Rings: ring life, cleaning, running-in procedures, varieties, selection of styles, conical rings, porous sintered metal for rings, and elimination of soiled yarn.

NYLON TRAVELERS FOR TWISTING. Platts Bull. 9, No. 3: 59-65 (1957). (1234)

The advantages of nylon over conventional travelers in twisting cotton, rayon, or synthetic yarns are pointed out. Tables. Graphs. Diagram.

PLATT/JOSEPHY BOX SPINNING FRAME. Platts Bull. 9, No. 3: 49-53 (1957). (1235)

Features of the Platt/Josephy models 5205 and 5207 box spinning frames for spinning without draft coarse yarns of 0.3s to 2.0s cotton count for blankets, carpets, cleaning cloths, etc. They are used mainly for short staple, low quality cotton and wool wastes which are not suitable for spinning on ring frames. Photographs. Diagram.

JUTE MANUFACTURING PRACTICE: CONSTRUCTIONAL FEATURES OF MODERN SPINNING MACHINERY. S. A. G. Caldwell. Textile Mfr. 83: 182-185 (Apr. 1957). (1236)

WHITIN LONG-DRAFT CONVERSIONS FOR BRADFORD AND FRENCH WORSTED SPINNING. Whitin Rev. 24: 37-40 (Mar. 1957). (1237)

Photographs. Diagrams.

HIGH DRAFTING IN THEORY AND PRACTICE. M. Hannah. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E63-E72. (1238)

Following an account of a set of general principles of drafting, the Ambler superdraft worsted spinning process is described. Recent theoretical work on blending in the drawing set, with special reference to a shortened set employing a high draft spinning frame, is reported. Photographs. 13 references.

SPINDLE DRAFTING OF WOOLEN SLUBBINGS. J. Angus and J. G. Martindale. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E96-E131. (1239)

An apparatus incorporating a single mule spindle was designed to draft woolen slubbings under a variety of conditions of twist and speed, and to measure the drafting forces generated. A two-phase hypothesis of fiber behavior is advanced in which it is suggested that fiber response during the first phase consists mainly of straightening and stretching, superseded by a second phase characterized by fiber slippage, often of a violent nature. Graphs. Tables. Also published in Textile Research J. 26: 698-716 (Sept. 1956).

DESIGN AND ANALYSIS OF A SPINNING EXPERIMENT. J. Menkart and J. C. Whitwell. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E132-E143. (1240)

The design of a series of spinning experiments for the purpose of detecting differences in end-breakage among a group of wool rovings is described and discussed. Tables. 11 references.

YARNS B 5

STRESS-STRAIN RELATIONSHIPS IN YARNS TESTED AT RATES OF STRAINING UP TO A MILLION PER-CENT PER MINUTE. H. F. Schiefer, J. C. Smith, F. L. McCrackin, W. K. Stone and K. Towne. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D148-D161. (1241)

PREVENTING BROKEN FILAMENTS IN LOW-TWIST FABRICS. E. R. Beckner. Textile World 107: 121, 228-236 (May 1957). (1242)

An inspection and prevention program for every department from yarn receiving through weaving is outlined.

CARPET PILE YARN MANUFACTURE. R. S. Audley. Texture 4: 31-34 (Mar. 1957). (1243)

Pile yarns for carpet manufacture are chiefly made on the woolen and worsted systems. For tufted carpets, they may be prepared on the cotton, woolen, or worsted systems, or long staple rayon on flax type machinery. The processing highlights for each type are briefly described. Photographs.

TWIST FAULTS IN WOOLEN AND WORSTED YARNS: CAUSES AND PREVENTIVE MEASURES. Wool Record 91: 876-877 (Apr. 18, 1957). (1244)

ELEMENTS OF A UNIFIED THEORY OF YARN STRUCTURE AND STRENGTH. S. A. Shorter. J. Textile Inst. 48: T99-T108 (Apr. 1957). (1245)

Two factors operative in determining yarn breaking tension, the effect of twist on the relative incidence of fiber slippage and breakage and the effect of twist on the degree of non-simultaneity of the breaks, are considered in an attempt to present a unified picture of the process of stretching a yarn to its breaking point. The predictions of various theories are discussed and compared with experimental data. Graphs. Tables. 4 references.

HYDRODYNAMIC FACTORS IN THE FRICTION OF FIBERS AND YARNS. W. W. Hansen and D. Tabor (Stanford Res. Inst.). Textile Research J. 27: 300-306 (Apr. 1957). (1246)

Studies on the friction of a lubricated yarn or fiber sliding over a cylindrical surface, in terms of the load, speed, and lubricant-viscosity, suggest that over a very wide range the behavior is dominated by hydrodynamic factors. Graphs. Diagrams. 8 references.

VOLUMINOUS ENKALON IN THE KNITTING INDUSTRY. A. A. J. Kramers and J. J. Jonker. Enka Breda Rayon Rev. 11: 17-20 (Feb. 1957). (1247)

The processing possibilities of voluminous Enkalon on circular machines, including interlock and rib machines, and on warp knitting machines are reported. Swatches.

EFFECTS OF COBALT 60 GAMMA RADIATION ON THE PHYSICAL PROPERTIES OF TEXTILE CORDS. D. J. Harmon (B. F. Goodrich Res. Center). Textile Research J. 27: 318-324 (Apr. 1957). (1248)

The effect of various levels of gamma radiation on flex fatigue, creep rate, melt points, stress strain, and shrinkage tension of Dacron, nylon, cotton, Orlon, Fiberglas, Celanese X-36, and rayon was measured in both air and vacuum. In general, the effect of radiation was to worsen the physical properties of the cords evaluated. Tables. Graphs. 9 references.

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

WARP SIZING. PART 13. P. V. Seydel. Textile Ind. 121: 134-142 (May 1957). (1249)

Causes and remedies for yarn harshness, softness, dampness, stiffness, and lack of elasticity; also lumps and streaks, variations in dyeability, variations in the size, oil stains, mildew, and rust spots. Photographs. Diagrams.

WEAVING C 2

PROBLEMS OF WEFT CONTROL. Man-Made Textiles 33: 41 (Feb. 1957). (1250)

Controlling weft breaks by careful loom inspection with the loom stopped and running. A fault finding chart lists shuttle and other loom faults.

ELECTROMAGNETIC SHUTTLE-PROPELLING DEVICES. E. R. Laithwaite and V. Duxbury. J. Textile Inst. 48: P214-P224 (Mar. 1957). (1251)

Following a critical review of the types of electromagnetic shuttle-propelling devices proposed during the past 30 years, present development work on linear induction motor schemes which involve no switching device is discussed. Diagrams. Photograph. 21 references.

SPOOL AXMINSTER CARPET LOOMS. Platts Bull. 9, No. 3: 72-75 (1957). (1252)

Efficiency is improved by the use of the new type undercomb, pressure lubrication system, and hand operated front knife cleaner described. Diagram. Photographs.

BRITISH LOOM USES SWISS PIRN CHANGER. George Hattersley & Sons Ltd. Skinner's Silk & Rayon Record 31: 386-388 (Apr. 1957). (1253)

Features of the Hattersley pirn-changing non-positive dobby rayon loom. The 4-color battery model TMBS4 +GF+ made by George Fischer Ltd., Switzerland, is used. Photographs.

14-WEEK INSPECTION SCHEDULE FOR DRAPER E MODEL LOOMS. Textile Bull. 83: 78-81 (Apr. 1957). (1254)

CHANGING LOOMS FROM SINGLE TO PLIED FILLING. R. Bayles. Textile Ind. 121: 106-108 (May 1957). (1255)

Changes in shuttle maintenance and in battery filling when a loom is converted from singles filling to plied filling, especially to the heavier grades, are discussed.

BEHAVIOR OF WEFT DURING UNWINDING FROM A SHUTTLE. I. H. Thomas (Brit. Cotton Ind. Res. Assoc.). Textile Mfr. 83: 163-166 (Apr. 1957). (1256)

Experimental work designed to determine the magnitude of the tension in the weft immediately before it is trapped by the crossing of the warp sheets is reported, methods of reducing tension rise towards the end of the cop are discussed, and the construction and use of the Shirley weft unwinding tension meter are explained. Diagrams. Photographs. 3 references.

PRODUCTION AND EFFICIENCY IN WEAVING. PART 2. J. W. Pennington. Textile Recorder 74: 62-64 (Apr. 1957). (1257)

The computation of weavers' work loads and weaving efficiencies is explained. Tables.

PROCESSING FIBER BLENDS: TECHNOLOGY OF WEAVING BLENDED YARNS. PART 2. G. Turton (Brit. Rayon Research Assoc.). Man-Made Textiles 33: 52-53 (Apr. 1957). (1258)

The technique of weaving difficult blends and the modifications necessary for trouble-free performances with various types of looms are discussed. Tables of warp and weft breakage rates.

MEASUREMENT OF THE UNIFORMITY OF SPACES BETWEEN DENTS IN LOOM REEDS. L. Waesterberg, L. Söderberg and G. Nordhammar (Swedish Inst. for Textile Res.). Textile Research J. 27: 327-331 (Apr. 1957). (1259)

To determine the maximum deviation of the dent spacing that can be allowed without causing visible warp streaks in a given fabric, a photometric measuring instrument was designed, and individual spaces between the dents registered as bars on a photographic film. In evaluating the irregularity of dent spacing from the shadow patterns of reed gratings on reeds, these patterns have been photographed and graded according to the correlation observed between the number of warp streaks and the photometric variation of dent spaces. Diagrams. Photograph. 3 references.

RELAXATION PHENOMENA IN WEAVING. K. Greenwood. J. Textile Inst. 48: P206-P213 (Mar. 1957). (1260)

The two types of fabric defects caused by relaxation during loom stoppage, repping and irregular pick-spacing, are analyzed. Diagrams. Photographs. 5 references.

NAVAHO BLANKET. W. E. Mainella. Dyestuffs 42: 1-11 (Mar. 1957). (1261)

Loom construction, weaving and dyeing techniques, and pattern types are described. Photographs.

KNITTING C 3

STRETCH-TYPE NYLON MILITARY HOSIERY. J. Zimmerman and C. J. Pope. Am. Dyestuff Reptr. 46: 270-277 (Apr. 22, 1957). (1262)

In investigating the use of stretch-type nylon yarns in combination with nonstretch cotton and wool yarns, it was found that either the plating or plying system of combining stretch nylon with nonstretch yarns was satisfactory for use in military hosiery. Tables. Photographs. Graphs.

PRESS-OFF DRAW THREAD ATTACHMENT FOR KOMET HOSIERY MACHINES. K. O. Metz. Textile Ind. 121: 178A, 178C (May 1957). (1263)

By using and controlling a flow of compressed air, the Scott & Williams press-off draw thread attachment eliminates the need of a draw thread and reduces the separating operation to cutting and pulling one end of yarn instead of two. Diagrams.

VOLUMET HOSE LENGTH CONTROL SYSTEM. J. C. Cobert. Textile Ind. 121: 169, 173 (May 1957). (1264)

Volumet system for close control of foot size, as well as welt and over-all length. Diagrams.

NEW BEARDED NEEDLE WARP KNITTING MACHINE. Textile Machine Works. Hosiery Trade J. 64: 76-77 (Apr. 1957). (1265)

Mechanical features of the Reading fine gauge two-bar 168-inch bearded needle warp knitting machine, which can be run at speeds comparable with those of high-speed 84-inch bearded needle machines and 168-inch F.N.F. machines. Photographs.

NEW METHOD OF KNITTING. T. D. Efland (Clemson College). Knitter 21: 74-75 (Apr. 1957). (1266)

This new method of knitting uses a hollow curved yarn tube in place of a conventional latch or bearded needle. A working model producing 24-inch fabric is described. Diagrams.

STIBBE-BERRIDGE MODEL 58 FOR STITCH-SHAPED UNDERWEAR. J. B. Lancashire. Hosiery Trade J. 64: 62-64 (Apr. 1957). (1267)

Mechanical and operational features of a new cylinder-and-dial latch needle stitch transfer machine with more knitting feeders to give higher output. Photographs. Diagram.

HOOKNIT COMPOUND NEEDLE. R. W. Mills. Hosiery Times 30: 46, 82 (Apr. 1957). (1268)

The Hooknit new two-part compound needle consists of a hooked member and a cranked point, both separately controlled, but operating together in order to form loops. Its operation in a Schneider and Reuthner warp knitting machine is described. Diagrams.

PATTERNING PRINCIPLES IN WEFT KNITTING. PART 6. KNITTED LACE CONSTRUCTIONS. J. Rab. Man-Made Textiles 33: 56 (Apr. 1957). (1269)

FABRICS C 4

SUITINGS TO BEAT TROPICAL SUN. J. W. S. Hearle. Skinner's Silk & Rayon Record 31: 408-410 (Apr. 1957). (1270)

Results of tests on radiant heat resistance of Thieron fabrics from yarns composed of fibers dyed to the three primary colors of the sun's spectrum. The radiant heat resistance of a three-color gray was as good as that of white. Graphs. Diagram.

PILLING: CAUSES AND CURE. N. M. Mims (Imp. Chem. Ind. Ltd). Man-Made Textiles 33: 46-48 (Apr. 1957). (1271)

The factors particularly responsible for pilling, and the way in which fabrics may be designed and finished to minimize pill formation are discussed. Photographs.

HEAT TRANSMISSION PROPERTIES OF FABRICS. PART 3. D. L. Aelion. Fibres 18: 135-139 (Apr. 1957). (1272)

Investigation of the manner in which some of the physical characteristics of a fabric, such as weight, thickness, porosity, and impermeability, influence its heat transmission properties. Graphs. Discussion of results and conclusions.

MOHAIR PILE FABRICS: IMITATION FURS WITH TWO HEIGHTS OF PILE. D. C. Georgiou (Leeds Univ.). (Letter to the editor). J. Textile Inst. 48: P225 (Mar. 1957). (1273)

MANUFACTURE OF NONWOVEN CARPETS. Textile Recorder 74: 54-56 (Apr. 1957). (1274)

Methods of producing carpet felts, needlefelts, needle-tufted carpets, Karvel carpets, and electrostatic bond fabric are covered briefly. Photographs. Diagrams.

BINDERS FOR NONWOVEN FABRICS. N. H. Sherwood (B. F. Goodrich Chem. Co.). Am. Dyestuff Reptr. 46: P323-P325 (May 6, 1957). (1275)

Binder systems for nonwoven fabrics may be grouped into four general classes: solutions, emulsions, thermoplastic fibers, and thermoplastic powders. Binder application methods and problems are discussed. 3 references. An article based on this paper was also published in Textile World 107: 81, 166-168 (Jan. 1957).

TECHNOLOGY OF NONWOVEN FABRICS. L. G. Lovin and L. P. Wenzell (Celanese Corp.). Am. Dyestuff Reptr. 46: P326-P328 (May 6, 1957). (1276)

This paper describes briefly the history of nonwoven fabrics and outlines the basic steps used in their production. A description of generally used bonding techniques is included. A schematic flow sheet highlights the various steps used in making experimental nonwoven fabrics in the pilot plant maintained in the laboratory of the Celanese Corp. The basic objectives of this pilot plant are also outlined.

NEEDLE PUNCHING OF PAPER FELTS AND NONWOVEN FIBERS. William Bywater Ltd. Can. Textile J. 74: 75 (Apr. 5, 1957). (1277)

The application of needle punching in processing woven endless felts is briefly described.

PAPERMAKERS FELTS. Textiles in Industry 2: 41-44 (Mar.-Apr. 1957). (1278)

The principal requirements of wet end and dry end felts, types of weaves, dimensions, wetting-out, and the use of Terylene and nylon in papermakers felts are covered. Diagrams.

PAPERMAKERS FELT. W. C. Westbrook. Textile World 107: 110-115 (May 1957). (1279)

The types of felts and their special properties and processing are briefly covered. Diagrams. Photographs.

TARPAULINS. Textiles in Industry 2: 21-26, 40 (Mar.-Apr. 1957). (1280)

Terylene tarpaulins: coated and uncoated, p. 21-22; PVC and neoprene treated nylon for tarpaulins, p. 23-24; New developments in flax treatments for tarpaulins, p. 25-26, 40.

ELECTRICAL INSULATION. Textiles in Industry 2: 27-29 (Mar.-Apr. 1957). (1281)

Terylene, nylon, and asbestos fibers in electrical insulation, p. 27-28; Terylene filament yarn for electrical insulation, p. 29.

RUBBER IN THE TEXTILE INDUSTRIES. PART 1. C. Moss (Dunlop Rubber Co. Ltd). Fibres 18: 119-123 (Apr. 1957). (1282)

Review on the extensive use by the textile industry of natural and synthetic rubbers in rubber proofing, sizing, combining, and backcoating operations. Diagrams. Graphs. Photographs.

DEVELOPMENT AND EVALUATION OF IMPROVED COATED FABRICS FOR COLD WEATHER CLOTHING. R. Briganti. U. S. Naval Supply Activities, Clothing Supply Office, Brooklyn, N. Y. Apr. 1956. 25 p. Order from Office of Technical Services, Washington 25, D. C. 75¢. PB 121 116. (1283)

27 neoprene and Buna-N coatings were applied to 5 nylon base fabrics, and the coated fabrics were evaluated for waterproofness, flexibility, tearing strength, wetting-out properties, and resistance to weathering and renovation. Tables. 5 references.

VENTILATING SYSTEM FOR CLOTHING. H. A. Mauch, J. F. Hall and F. K. Klemm. Wright Air Development Center, Wright-Patterson Air Force Base, Dayton, Ohio. Apr. 1955. 49 p. Order from Library of Congress, Photoduplication Service, Washington 25, D. C. Microfilm $3.30. Photocopy $7.80. PB 123 936. Through U. S. Govt. Research Rpts. 27: 166 (Apr. 12, 1957). (1284)

Details of the design and function of a system for ventilating air force clothing, including a water impermeable anti-exposure suit, are described.

QUANTITATIVE INVESTIGATION OF THE MA-1 VENTILATING GARMENT WHEN USED WITH A MODIFIED MK-IV ANTI-EXPOSURE SUIT. D. C. Skilling, J. W. McCutchan and C. L. Taylor. Univ. of Calif. Dept. of Engineering, Los Angeles, Calif. Dec. 1956. 39 p. Order from Office of Technical Services, Washington 25, D. C. $1.00. PB 121 899. Through U. S. Govt. Research Rpts. 27: 166 (Apr. 12, 1957). (1285)

The physiological responses of two subjects at 160° to 240° F while wearing the MA-1 ventilating garment with an MK-IV exposure suit are reported.

NOVEL TWILL WEAVE FABRICS. O. Hughes. Textile Ind. 121: 145 (May 1957). (1286)

Weaves based on variations of the 3 x 1 twill are described. Diagrams.

STANDARD WOOL FABRICS. PART 2. Textile Ind. 121: 128-132 (May 1957). (1287)

Descriptions and manufacturing procedures for fleece, tweed, melton, soft finished worsted, flannel, and gabardine. Photographs.

DESIGN IN WOVEN STRUCTURE. PART 52. TWILL AND MAT WEAVE COMBINATIONS. D. C. Snowden. Wool Rev. 30: 35, 37 (Apr. 1957). (1288)

PHYSICAL PROPERTIES OF WORSTED FABRICS. T. V. Ananthan and W. R. Lang. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E275-E293. (1289)

The effect of weave and sett on tensile strength was studied. 11 references.

DEVELOPMENT OF STATIC LINE WEBBING FOR THE T-10 PARACHUTE SYSTEM. P. Y. Stanton. Wright Air Development Center, Wright-Patterson Air Force Base, Dayton, Ohio. Nov. 1956. 38 p. Order from Office of Technical Services, Washington 25, D. C. $1.00. PB 121 848. Through U. S. Govt. Research Rpts. 27: 209 (Apr. 12, 1957). (1290)

A silk, a linen, and 6 nylon webbings were developed, each with a different elongation. Only the nylon webbings appeared satisfactory for use as static line webbing.

FINISHING AND CHEMICAL PROCESSING D

ENGINEERING PRINCIPLES IN DYEING AND WET FINISHING. J. Lindberg. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E11-E16. (1291)

The importance of the role of fluid flow in the design of dyeing and wet finishing machinery is emphasized.

CHEMICAL PROCESSES D 1

BEHIND THE LABEL. Skinner's Silk & Rayon Record 31: 396-399 (Apr. 1957). (1292)

Brief survey of British trade-name finishes, including information on the type of finish and fabrics for which it is intended.

REELING BETTER COTTON PLY YARN. F. Vogel. Textile World 107: 148-149, 210-212 (May 1957). (1293)

Pointers on skein uniformity, knotting, leasing, yarn guides, and tension control in preparing skeins for dyeing, bleaching, or mercerizing. Diagrams.

ELECTROSTATIC FLOCK PRINTING. Arno H. Wirth. Fibres 18: 131-132, 134 (Apr. 1957). (1294)

The AWR flock finishing carriage model 57 is described. Photographs. Diagram.

SOMETHING NEW IN FINISHES: CHECKING HUMAN BODY ODOR. J. M. Salsbury (Am. Cyanamid Co.). Modern Textiles Mag. 38: 82-86, 103 (Apr. 1957). (1295)

Data on the activity and durability of Cyana purifying agent, a finish for protecting against body odor formation on fabrics, are presented. Photomicrographs. Graphs.

MECHANISM OF THE CHEMICAL ANTIFELTING REACTIONS. C. Earland. (Letter to the editor). J. Textile Inst. 48: T132 (Apr. 1957). (1296)

CATIONIC FABRIC SOFTENERS. P. L. Du Brow and W. M. Linfield. Soap Chem. Specialties 33: 89-97 (Apr. 1957). (1297)

The differences between anionic, nonionic, and cationic softeners are pointed out, the major chemical groups of cationics outlined, and their applications, advantages, and shortcomings discussed.

WET PROCESSING OF FABRICS CONTAINING BLENDS OF WOOL. H. D. Edwards. Fibres 18: 127-130, 134 (Apr. 1957). (1298)

The relation of scouring, milling, and dyeing to the properties of the final fabric is examined. Photographs.

CARBAMOYLETHYLATION OF COTTON WITH ACRYLAMIDE. J. W. Frick, W. A. Reeves and J. D. Guthrie (Southern Regional Research Lab.). Textile Research J. 27: 294-299 (Apr. 1957). (1299)

Some of the factors involved in the preparation of carbamoylethyl cellulose are examined and some of the properties of carbamoylethylated fabric are evaluated. Tables. 7 references.

INFLUENCE OF PRETREATMENT ON THE REACTIVITY OF COTTON AS MEASURED BY ACETYLATION. R. J. Demint and C. L. Hoffpauir (Southern Regional Research Lab.). Textile Research J. 27: 290-294 (Apr. 1957). (1300)

A systematic investigation of the effect of alcohol extraction, scouring, decrystallization, mercerization, wetting, cyclic rewetting, and excessive drying on the rate of acetylation of a single lot of cotton, used in the form of yarn, cut sliver, fabric, and finely ground sliver, is reported. Tables. Graphs. 9 references.

MOTHPROOFING. Consumer Rpts. 22: 235-236 (May 1957). (1301)

Recommendations for home methods and agents for mothproofing clothing, carpets, furs, and house furnishings.

MINIMUM CARE FINISHES: PRINCIPLES OF MODERN RESIN TREATMENTS. A. F. Cheshire. Man-Made Textiles 33: 77-78 (Apr. 1957). (1302)

New concepts concerning the relationship between fibers and resins, and improvements and special modifications in resin application for creaseproofing cotton and viscose rayon, are briefly reviewed.

CUTTING PEROXIDE BLEACHING COSTS. H. G. Smolens (Pennsylvania Salt Mfg. Co.). Textile Ind. 121: 114-115 (May 1957). (1303)

A positive reduction in the caustic content of caustic-steamed goods, plus a substantial reduction in the silicate content of the peroxide bleaching formula, will not only reduce the chemical cost per pound but probably produce a superior result.

DAMAGE OF LINEN BY ACID. F. L. J. van Lamoen. Vezelinst. T.N.O. (Delft) V.I. Pam. No. 39: 1-8 (1953). In Dutch. Through Chem. Abstracts 51: 5430g (1957). (1304)

Linen is damaged by acids in a manner shown by lowering of breaking strength but not by determination of solubility number. The damage is believed to be due to attack on hemicellulose chains imbedded between the cellulose chains. The damage occurs in the bleaching process because of subsequent acidification with sulfuric acid and drying. Thorough washing of the linen after bleaching and acidification is recommended. 11 references.

NON-FELTING UNSHRINKABLE WOOL. A. J. Hall. Textile Recorder 74: 67-68 (Apr. 1957). (1305)

Two resin treatments for shrinkproofing wool, the American Lanaset process and a British process using an acrylic copolymer, are reviewed.

CREASE RESIST FINISHING. F. Weber. Skinner's Silk & Rayon Record 31: 414, 416 (Apr. 1957). (1306)

Resin and processing variables affecting crease resistance, tensile strength, odor, handle, and lightfastness of cotton fabrics are briefly surveyed. 18 references.

NEW BACKWASHING MACHINE. Taylor Wordsworth & Co. Ltd. Textile Wkly. 57: 983-984 (Apr. 5, 1957); Textile Merc. 136: 588-589, 593 (Apr. 5, 1957). (1307)

Features of the squeezing head and drying unit of the Taylor Wordsworth mark III backwashing machine are described. Photographs.

EPOXIDE RESINS. K. J. Brookfield (Fibreglass Ltd). Chemistry & Industry No. 15: 438-443 (Apr. 13, 1957). (1308)

Some of the problems connected with the use of glass as a reinforcing material are considered, and its use for the reinforcement of epoxy resins is described. Tables. 3 references.

DYEING AND PRINTING D 2

BEHAVIOR OF DYES IN SOLUTION. A. Schaeffer (Farbwerke Hoechst). Textil-Rundschau 12: 59-77 (Feb. 1957). In German. (1309)

A theoretical discussion under the following headings: the dissolving process, behavior of dyes as electrolytes, and behavior of dyes as colloids. 29 references.

COLOUR INDEX. 2d ed. Society of Dyers and Colourists and American Association of Textile Chemists and Colorists. 1957. Available from AATCC, Box 28, Lowell, Mass. 4 volumes. $99.00. (1310)

In part 1 all the known commercial names under which a dye is sold are given. Part 1 also contains methods of applying the dyes, their usage, and the more important fastness properties and other basic data. Part 2 gives the structural formula for the dye, methods of manufacture and, where known, the inventor and the literature, including patents. Part 3 contains lists of the abbreviations used, a list of dye and pigment makers with their abbreviations, details of the fastness tests, patents index, commercial names index, and conversion tables equating the numbers given to dyes in this edition of the Colour Index with those given them in the first edition and in the seventh edition of Schultz and with the AATCC prototypes.

DYES FOR THE HYDROPHOBIC FIBERS. H. E. Schroeder and S. N. Boyd (E. I. du Pont de Nemours & Co.). Textile Research J. 27: 275-285 (Apr. 1957). (1311)

This summary of the present status of the dyeing of the hydrophobic synthetic fibers emphasizes the tailoring of dye molecules to the chemical and physical requirements of the different fibers. 9 references.

WOOL DYEING: RECENT DEVELOPMENTS. B. C. M. Dorset. Textile Mfr. 83: 194-198 (Apr. 1957). (1312)

Patent and literature review:producing speckled or melange colored effects on knitted wool materials, modifying the epicuticle of wool to make it easier to dye and to roller print, and increasing dye pick-up by adding organic substances such as certain amines, alcohols, and phenols which are sparingly soluble in water. Graphs.

FIBER PROTECTION IN DYEING WOOL KNITWEAR. Hosiery Times 30: 39-44 (Apr. 1957). (1313)

The harmful effects of acid and acid dye liquor on wool, as reported in the literature, are examined, and pretreatment with formaldehyde vs. the addition of formaldehyde to the acid liquor, as protection against acid attack, are compared. Tables. Graphs.

CHANGE IN DIAMETER OF WOOL FIBERS ON DYEING. P. Larose. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B114-B119. (1314)

The volume of wool fibers, on dyeing with Orange II, increases linearly with dye content, and is equal to the volume of the dye added. When the dye content is low, as in many commercial dyeings, the change in diameter is small and can be neglected for most purposes. 3 references.

CHROMING OF WOOL. R. V. Peryman. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E34-E41. (1315)

Investigation of the mechanism of chroming by the use of simplified systems, together with determinations of pH values at 100° C and of disulfide sulfur in the treated wool. Graphs. Table. 13 references.

CHANGES IN THE PROPERTIES OF WOOL IN DYEING AND RELATED PROCESSES. R. V. Peryman. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E17-E33. (1316)

Industrial conditions for treating wool in solutions at the boil are discussed, and simulation of these processes on a laboratory scale is examined. Preferred methods for the physical and chemical examination of treated wool are given. Graphs. Tables. 34 references.

TUFTED CARPET PAD DYED. Rodney Hunt Machine Co. Modern Textiles Mag. 38: 52, 54 (Apr. 1957). (1317)

Two systems of dye padding tufted floor coverings with the Niptrol mangle, one using direct colors and the other vat colors, are briefly described. Diagrams.

LEUCOESTERS OF VAT DYESTUFFS. H. Luttringhaus (Carbic Color & Chem. Co.). Am. Dyestuff Reptr. 46: P283-P288 (Apr. 22, 1957). (1318)

The chemistry of the leuco esters, methods of application, and their use in dyeing wool, blends, silk, nylon, Dacron, and Orlon are described.

VAT DYEING: RECENT DEVELOPMENTS. J. M. Fletcher (E. I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 46: P319-P322, P328 (May 6, 1957). (1319)

Developments in the application of vat dyes that have taken place during the last 10 years in the various segments of the textile industry are discussed. 8 references.

HISTORY OF COTTON PRINTING IN ENGLAND. S. H. Pavière. Texture 4: 7-13 (Mar. 1957). (1320)

MODERN FABRIC PRINTING AND FINISHING. H. S. Coleman. Textile Wkly. 57: 1135-1140 (Apr. 19, 1957). (1321)

Methods of fabric decoration, with emphasis on roller, screen, and hand block printing, are briefly reviewed.

DRYING D 4

HEAT AND MOISTURE RELATIONS FOR TEXTILES. F. L. Warburton. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D220-D233. (1322)

The factors that govern the transfer of heat and moisture to and from fabrics are discussed, using a modified wet-bulb theory. The relations derived are used to examine the various factors that contribute to thermal efficiency in the tenter and also the drying of wool in package form. It is shown that, provided a high humidity is maintained in the tenter exhaust, the advantage of drying with superheated steam is much less than is supposed. Graphs. Table. 7 references.

TESTING AND MEASUREMENT E

USE YOUR LAB. R. Parks. Textile Ind. 121: 119-121 (Apr. 1957). (1323)

How a mill making industrial fabrics makes use of its mill laboratory.

PRINCIPLES OF CHROMATOGRAPHY. R. L. M. Synge. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B238-B248. (1324)

FIBERS E 1

LABORATORY TESTS FOR FIBER QUALITY: AIRFLOW METHODS FOR WOOL AND COTTON. PART 1. A. T. C. Robinson. Texture 4: 23-26 (Mar. 1957). (1325)

The use of airflow methods for measuring cotton fineness and maturity and wool diameter is discussed, their limitations pointed out, and the WIRA fineness meters for cotton and wool described and illustrated. 6 references.

INTERACTION OF WOOL AND WATER. PART 3. KINETICS OF VAPOR SORPTION IN SINGLE FIBERS. J. G. Downes and B. H. Mackay. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D202-D210. (1326)

A technique is described which permits precise measurement of the rate at which the amount of sorbed vapor in single fibers changes as a result of changes in relative humidity. Some preliminary results for wool fibers are presented. Diagram. Graphs. 12 references.

QUANTITATIVE FIBER ANALYSES BASED ON THE DIFFERENCE IN THE SPECIFIC GRAVITIES OF THE FIBER COMPONENTS. E. Frieser. Textil-Praxis 11: 1009-1010 (1956). In German. Through Chem. Abstracts 51: 4717f (1957). (1327)

A sedimentation process which quantitatively separates components of mixed fibers such as wool/cellulose blends by specific gravity is described.

IDENTIFICATION OF INORGANIC FIBERS. W. Bobeth and U. Muller. Faserforsch. u. Textiltech. 7: 497-504 (1956). In German. Through Chem. Abstracts 51: 4717h (1957). (1328)

With the aid of microchemical methods, especially with H_2SO_4 and HF, a quick and comprehensive identification is achieved by which a scheme for the determination of all inorganic fibers may be set up.

YARNS E 2

STATISTICAL TESTS OF COLOR BLENDING IN ROVING. P. G. Walker. (Letter to the editor). J. Textile Inst. 48: T133 (Apr. 1957). (1329)

EFFECT OF MOISTURE UPON THE ACCURACY OF CAPACITY-TYPE REGULARITY TESTERS. G. A. R. Foster (Shirley Inst.). J. Textile Inst. 48: T109-T127 (Apr. 1957). Shirley Inst. Mem. 30: 15-33 (Jan. 1957). (1330)

Measurements of the effect of relative humidity on the deflection of two capacity-type regularity testers show that for cotton the effect is so large that, unless suitable precautions are taken, serious errors may arise in the measurement of coefficients of variation. Observations of the rate of diffusion of moisture into yarn and roving bobbins and into cans of sliver, however, have enabled a fairly simple procedure to be devised, which ensures less than 5% error in the coefficient of variation. Graphs. Tables. 4 references.

DETERMINATION OF NEPPINESS IN CARDED WEBS. N. H. Chamberlain and G. Jordanides. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E231-E261. (1331)

An apparatus suitable for scanning specimens of carded webs to determine their nep content is described, as well as a method of computing the neppiness index. It is suggested that this index may be a more reliable and consistent measure of neppiness than the nep count hitherto used. Diagrams. Graphs. Tables. 15 references. Also published in Textile Research J. 26: 579-596 (Aug. 1956).

MECHANICAL TENSIOMETER. H. P. Verschragen. Enka Breda Rayon Rev. 11: 21-22 (Feb. 1957). (1332)

A yarn tensiometer of simple design, for use on textile machines under working conditions and in places difficult of access, is described. Diagrams. Photographs.

METHOD FOR EVALUATING THE TWIST IN NYLON MONOFILAMENTS. M. W. Astle-Fletcher (Hosiery & Allied Trades Res. Assoc.). (Letter to the editor). J. Textile Inst. 48: T128-T132 (Apr. 1957). (1333)

The method described is an exact, rather than an empirical, method of determining twist which may be used at all stages of yarn and fabric manufacture.

FABRICS E 3

TESTING AND STANDARDIZATION OF TEXTILES FOR INDUSTRIAL PURPOSES. D. Kenrick. Textiles in Industry 2: 31-33 (Mar.-Apr. 1957). (1334)

Problems encountered in industrial textile uses, methods of testing and eliminating them, and the need for standards are considered.

DEVELOPMENT OF TEST METHODS FOR THERMAL STABILITY OF VARNISHED (COATED) FABRIC ELECTRICAL INSULATING MATERIALS. ASTM Bull. No. 221: 74-78 (Apr. 1957). (1335)

Progress report from a special task group of ASTM Committee D-9 on Electrical Insulating Materials. Graphs. Diagrams. Photograph.

ULTRAVIOLET LIGHT AIDS FAULT EXAMINATION. Textile Recorder 74: 65, 64 (Apr. 1957). (1336)

Methods for identifying the source of oil stains and for the study of warp breakages in weaving are described. 2 references.

TEAR STRENGTH OF FABRICS. R. Steele (Rohm & Haas Co.). Am. Dyestuff Reptr. 46: 329-335 (May 6, 1957). (1337)

The effect of examples of three classes of finishing agents (softeners, internal resins, and surface resins) on tear strength as measured by three common tearing tests (the trapezoid, Elmendorf, and tongue methods) was studied. Tear resistance appears to depend strongly on fabric tensile strength and deformability. The three common tear tests are different in their relative sensitivity to these factors. When the effect of a finishing agent on tear strength is evaluated, the result may be strongly influenced by the test used. Tables. Graphs. 12 references.

ANALYSIS OF TEARING FAILURE. R. Steele and I. J. Gruntfest (Rohm & Haas Co.). Textile Research J. 27: 307-313 (Apr. 1957). (1338)

An equation is evolved relating tear strength to the force-elongation behavior of the tested material and the geometry of the sample arrangement. An evaluation of this relationship with textile fabrics has shown that it is a reasonably good expression for describing their behavior in the trapezoid tear test. Tables. Graphs. 7 references.

ANALYSIS OF SOUND PRODUCED BY FABRICS IN FRICTION. W. J. Thorsen and H. P. Lundgren. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. E294-E314. (1339)

Measurements with an acoustic device developed to measure the spectral distribution of sound produced by fabrics in friction show that the distribution and intensity of the sound vary with fabric construction and individual fiber properties. These variations correlate well with fabric handle as determined tactually by a panel. Diagrams. Graphs. Tables. Photograph. 19 references.

OTHER E 4

RESIN EMULSION DENSITY-SOLIDS RELATIONSHIPS. L. Shapiro. Modern Plastics 34: 181, 248 (May 1957). (1340)

Nomographic method for calculating resin density from solid content. Graph. Table.

DETERMINATION OF THE INSOLUBILITY OF CHEMICALLY MODIFIED COTTON IN CUPRAMMONIUM HYDROXIDE SOLUTION. W. T. Schreiber (Southern Regional Res. Lab.). Textile Research J. 27: 324-326 (Apr. 1957). (1341)

A method is described for determining quantitatively that portion of a chemically modified cotton which is insoluble in cuprammonium hydroxide solution. Table. 5 references.

RAPID TEST FOR RESIN IDENTIFICATION ON TEXTILES. J. H. Howard (Cranston Print Works Co.). Am. Dyestuff Reptr. 46: 313 (May 6, 1957). (1342)

Aminoplasts may be removed from cotton fabrics by acid hydrolysis. Those of the urea-formaldehyde type react with 15% sodium hydroxide to liberate ammonia. Urea-formaldehyde, ethylene urea-formaldehyde, and melamine-formaldehyde resins all have different rates of acid hydrolysis. Formaldehyde is liberated and provides a means of further identifying the respective resins through reaction with phenylhydrazine and finally ferric chloride, giving a characteristic color. These reactions are the bases of this test. 9 references.

CHROMATOGRAPHIC METHOD FOR THE IDENTIFICATION OF AMINOALDEHYDE FINISHES ON TEXTILES. B. Norwick and E. Bierig (Beaunit Mills). Am. Dyestuff Reptr. 46: 314-315 (May 6, 1957). (1343)

Descending paper chromatography is used in a simplified technique for the identification of the amino constituents hydrolyzed from aminoaldehyde finishes on textiles. Minute quantities are readily separated and detected, and a development time of 3 hours usually is adequate. The spots are made visible on the paper strips by treatment with formaldehyde, followed by curing and staining with Scarlet 4RA (CI 185). 10 references.

STANDARDIZATION OF TEST METHODS FOR TEXTILE AUXILIARIES. PART 2. DETERMINATION OF VAT ACID DISPERSION POWER OF SURFACTANTS. G. Schwen and C. Rackemann. Melliand Textilber. 37, No. 11: 1345-1347 (1956). In German. Translated by H. A. Nelson. Am. Dyestuff Reptr. 46: 278-280 (Apr. 22, 1957). (1344)

PRACTICAL ASPECTS OF FASTNESS TESTING. P. R. Dawson. Textile Mfr. 83: 179-181 (Apr. 1957). (1345)

Developments in international testing standards for light, perspiration, and washfastness are surveyed.

PARTITION CHROMATOGRAPHY OF PROTEINS. A. J. P. Martin and R. R. Porter. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B14-B21. (1346)

Available techniques for the separation of proteins by chromatographic methods are reviewed, and factors limiting the application of the method are discussed. 7 references.

REMARKS ON THE DEFINITION AND MEASUREMENT OF THE SOLVATION OF MACROMOLECULES IN SOLUTION. A. G. Ogston. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B92-B97. (1347)

The problem of the solvation of solutes is considered with special reference to that of macromolecular substances. Concepts of solvation, and methods by which solvation may be measured, are critically examined. 22 references.

SECONDARY-VALENCE INTERACTIONS AND THE SEPARATION OF LARGER PEPTIDES. R. L. M. Synge. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B9-B13. (1348)

INDUSTRIAL ENGINEERING F

DEPARTMENTAL COSTS. W. J. Wood (Knitters, Ltd). Textile Ind. 121: 111-113 (May 1957). (1349)

A simple record keeping system,used in a worsted mill, for departmental production, efficiency, and costs is outlined, and examples of the charts used are included.

YARN LOSS RECLAIM SYSTEM. W. J. Cox (Cooper & Roe Ltd). Hosiery Times 30: 27-32 (Mar. 1957). (1350)

A method for estimating yarn losses and reclaim figures during knitting and finishing, based on mill experiments, is described. Examples of the original test methods and calculations are included. Tables.

MACHINERY AND MAINTENANCE F 1

MODERN PRINT CLOTH MILL: A SURVEY. PART 2. Whitin Rev. 24: 26-36 (Mar. 1957). (1351)

The complete productive machinery requirements from opening through spinning for a modern 44,600 spindle mill producing 162,190 lbs. per 144 hrs. of 39 in. 80 x 80 4.00 high quality print cloth are given. Cost totals of prices prevailing and estimated in mid-1956 are also given.

CURRENT MACHINES AND FUTURE DEVELOPMENTS. H. B. Hunter (Warner & Swasey Co.). Can. Textile J. 74: 67-70 (Apr. 5, 1957). (1352)

New developments and new equipment of the Warner & Swasey Co. Textile Div. are described.

AKULON IN THE TEXTILE INDUSTRY. J. Siebrand. Enka Breda Rayon Rev. 11: 26-36 (Feb. 1957). (1353)

The preparation, properties, and application of Akulon (nylon 6 plastic) to textile machinery parts is described. Tables. Photographs.

SCIENCES G

CHEMISTRY G 1

SOIL-RESISTANT FINISH FOR COTTON FABRICS. V. W. Tripp, R. L. Clayton and B. R. Porter (Southern Regional Res. Lab.). (Letter to the editor). Textile Research J. 27: 340-342 (Apr. 1957). (1354)

A soil-resistant treatment with perfluorodecanoic acid is reported. Table. Photomicrographs. 10 references.

IN PRAISE OF WOOL. W. T. Astbury. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B220-B237. (1355)

Lecture on research developments basic to the understanding of the molecular structure of proteins. 27 references.

ALKALINE DEGRADATION OF CELLULOSE. G. Machell, G. N. Richards and H. H. Sephton (Brit. Rayon Res. Assoc.). Chemistry & Industry No. 15: 467-469 (Apr. 13, 1957). (1356)

Preliminary report on the nature of the products of alkaline degradation using cotton hydrocellulose to ensure maximum chemical uniformity with normal end-groups. Table. 4 references.

ADVANCING FRONTIERS IN WOOL CHEMISTRY. H. P. Lundgren. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. C374-C395. (1357)

A lecture. 18 references.

CROSS-LINKING REACTIONS IN KERATIN. PART 3. THE ACTION OF NINHYDRIN ON WOOL. R. Cockburn and J. B. Speakman. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. C315-C339. (1358)

An attempt is made to explain the strengthening effect of ninhydrin on wool. 29 references.

CROSS-LINKING REACTIONS IN KERATIN. PART 4. THE ACTION OF NINHYDRIN ON REDUCED WOOL FIBERS. R. Cockburn and J. B. Speakman. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. C340-C349. (1359)

CROSS-LINKING REACTIONS IN KERATIN. PART 5. A NEW METHOD OF SETTING STRAINED FIBERS AT LOW TEMPERATURES. P. T. Speakman and J. B. Speakman. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. C350-C354. (1360)

Strained fibers can be given a high degree of permanent set by treatment with a mixture of sodium sulfite and ninhydrin at 50° C. The method is especially interesting as the first example of setting by means of a mixture of an oxidizing and a reducing agent. 3 references.

CROSS-LINKING REACTIONS WITH AMINO ACIDS AND FIBROUS PROTEINS. H. Zahn. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. C425-C451. (1361)

Bifunctional molecules, which react with amino-acid residues in fibrous proteins, may be used in the determination of the structure of these proteins, provided the bonds so formed are stable to hydrolysis and the cross-linked amino acids can be isolated from the reaction mixture. Various bridged amino acid pairs were prepared and characterized. 46 references.

CHEMICAL MODIFICATIONS OF THE SURFACE LAYER OF WOOL AND THEIR EFFECT ON WETTABILITY AND SORPTION PROPERTIES. L. Wikstroem, E. Soervik, M. Cednaes and B. Olofsson. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. C257-C276. (1362)

Results from an investigation of the surface modifying effects of acid, alkaline, oxidizing, reducing, etc., agents in organic solvents, of enzymes, and of pure solvents, are consistent with the theory that the treatments make the surface layer more polar in character. 21 references.

DEGRADATION OF WOOL BY HYPOCHLORITES, WITH SPECIAL REFERENCE TO THE ACTION OF HYPOCHLORITES ON CHEMICALLY MODIFIED WOOL. R. Bentham, C. B. Stevens and C. S. Whewell. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. C277-C285. (1363)

DIMALEIMIDES AS CROSS-LINKING AGENTS FOR REDUCED WOOL. J. E. Moore and H. P. Lundgren. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. C355-C362. (1364)

ELECTROPHORETIC PROPERTIES OF KERATEINE 2 (COMPONENT 2) AND SOME OF ITS DERIVATIVES. J. M. Gillespie. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B35-B47. (1365)

The preparation and properties of chemical derivatives of an electrophoretically pure wool protein (kerateine 2) are described. 17 references.

OBSERVATIONS ON THE SORPTION OF ACIDS BY WOOL. P. Larose and R. Donovan. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B106-B113. (1366)

The sorption of HCl and H_2SO_4 by wool in mixtures of these acids in water was measured to determine whether the Donnan equilibrium or Gilbert and Rideal theory was better in representing the results. It was found that the sorption of HCl obeys the Donnan theory better, but the sorption of H_2SO_4 is equally well represented by either theory. 13 references.

PHYSICO-CHEMICAL STUDY OF THE SOLUBLE PROTEIN FROM PERACETIC ACID-OXIDIZED WOOL. I. J. O'Donnell and E. F. Woods. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B71-B85. (1367)

The effect of pH, time, and ionic strength on electrophoresis, viscosity, and sedimentation has been studied for α-keratose, a protein derived from wool oxidized with peracetic acid. 18 references.

THEORY OF STRESS RELAXATION: RELAXATION IN WOOL AND ISOBUTYLENE POLYMERS. T. Ree, S. J. Hahn and H. Eyring. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D234-D248. (1368)

A proposed generalized equilibration theory of transient phenomena is applied to the stress relaxation in wool fibers and polyisobutylene rings stretched at constant elongation. Graphs. Tables. 27 references.

POSSIBLE INSTABILITY PHENOMENA IN THE MECHANICAL BEHAVIOR OF PROTEINS. K. R. Makinson. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D54-D61. (1369)

MOLECULAR WEIGHTS OF SOME WOOL KERATIN DERIVATIVES. B. S. Harrap. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B86-B91. (1370)

MACROMOLECULAR STRUCTURE OF WOOL: THE TERMINAL AMINO ACIDS OF THE FRACTIONS OBTAINED AFTER OXIDATION WITH PERACETIC ACID. P. Alexander and L. F. Smith. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B56-B70. (1371)

WOOL PROTEIN COMPLEX AND ITS HYDROTHERMAL INSTABILITY. F. G. Lennox. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B22-B34. (1372)

Some pertinent contributions concerning the electrophoretic demonstration of protein components in thioglycollate extracts of wools of varying fineness are summarized. 26 references.

PREPARATION OF WOOL PROTEIN SOLUTIONS. I. J. O'Donnell and E. F. Woods. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B48-B55. (1373)

Various methods of dissolving wool are critically discussed and it is concluded that most information from physical measurements is likely to be obtained from solutions in which all the disulfide bonds have been permanently severed either by repeated reduction and alkylation, or by oxidation. Likely causes of insolubility are also considered. 34 references.

STRUCTURE OF COLLAGEN FIBERS. S. G. Tomlin. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B187-B192. (1374)

UNIMOLECULAR FILMS OF INSULIN AT THE AIR-WATER INTERFACE. B. S. Harrap. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B98-B105. (1375)

CONFIGURATION OF POLYPEPTIDE CHAINS IN PROTEINS. R. B. Corey and L. Pauling. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B249-B267. (1376)

It is shown how precise dimensions obtained experimentally from simple substances can be used, together with fundamental structural principles, to derive probable configurations for the polypeptide chain that are so precisely defined that they can be critically evaluated by direct experiment. Diagrams. X-ray photographs. 46 references.

MECHANICAL PROPERTIES OF THE ALPHA TO BETA TRANSFORMATION IN NATURAL KERATIN FIBERS. A. L. Ruoff and H. Eyring. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D9-D25. (1377)

DIPOLE INTERACTION OF AMIDE GROUPS IN KERATIN. M. Feughelman. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B151-B152. (1378)

VIBRATIONAL BEHAVIOR OF A THREE-ELEMENT VISCOELASTIC MODEL AND ITS APPLICATION TO VIBRATION EXPERIMENTS ON HIGH POLYMERS [KERATIN FIBERS]. F. L. Warburton. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D38-D53. (1379)

X-RAYS AND THE STOICHIOMETRY OF KERATIN: A RENEWED ENQUIRY. W. T. Astbury. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B202-B219. (1380)

POSSIBLE MODIFICATIONS OF THE α-HELIX AND SPECULATIONS ON THE POSSIBILITY OF INTRA-CHAIN DISULFIDE BONDS IN α-KERATIN STRUCTURES. H. Lindley. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B193-B201. (1381)

STRUCTURE OF TUSSAH SILK FIBROIN: WITH A NOTE ON THE STRUCTURE OF β-POLY-L-ALANINE. R. E. Marsh, R. B. Corey and L. Pauling. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. B176-B186. (1382)

GENERALIZED THEORY OF VISCOSITY AND DIFFUSION. T. Ree and H. Eyring. Proc. Internat. Wool Textile Res. Conf. Australia 1955. p. D162-D181. (1383)

PHYSICS G 2

ATOMICS AND TEXTILES. PART 2. EFFECTS OF RADIATION. J. W. S. Hearle. Skinner's Silk & Rayon Record 31: 274-278 (Mar. 1957). (1384)

Good and bad effects of radiation on textile materials, levels at which damage occurs, and textile applications are covered. Photographs. Diagrams. 18 references.

RADIOISOTOPES: APPLICATIONS IN THE TEXTILE INDUSTRY. PART 3. Texture 4: 14-18 (Mar. 1957). (1385)

Applications of radioisotopes to analytical and tracer work in the textile industry, as well as the effects of nuclear radiation on fibers, are covered. 17 references.

ISOTOPES IN TEXTILES. S. Srikantiah. Indian Textile J. 67: 294-296, 304 (Feb. 1957). (1386)

The types of radiation and the half-life period of various radioactive isotopes are tabulated and the application of isotope techniques to textile problems is briefly outlined.

MISCELLANY H

SWISS TEXTILE MACHINERY INDUSTRY AT THE SWISS INDUSTRIES FAIR, BASLE, APR. 27-MAY 7, 1957. R. Honold. Swiss Tech. No. 1: 27-46 (1957). (1387)

Brief survey of textile and auxiliary equipment to be displayed. Sulzer weaving machine for the wool industry, p. 37-38; Control by magnetic amplifiers of D. C. multi-motor drives for sizing machinery, p. 39-41; New Uster slub catcher, p. 43. Photographs.

TEXTILE MACHINERY AT THE SWISS INDUSTRIES FAIR. Textile Wkly. 57: 1023-1027 (Apr. 12, 1957). (1388)

PAPER PRODUCTS: TECHNOLOGICAL CHALLENGE TO THE TEXTILE INDUSTRY. R. B. Hobbs (U. S. Nat. Bur. Standards). Can. Textile J. 74: 53-58 (Apr. 19, 1957). (1389)

The following categories of paper products competing with textiles are considered: (1) packaging and packing, (2) sanitary papers, (3) food service, (4) hospital and medical supplies, (5) clothing, and (6) industrial and miscellaneous.

THE BRITISH HOSIERY INDUSTRY: A STUDY IN COMPETITION. A. G. Pool and G. Llewellyn. University College, Leicester, England, 1955. 34 p. (1390)

COTTON INDUSTRY OF JAPAN. K. Seki. Japan Society for the Promotion of Science, Tokyo, Japan. 417 p. In English. Available from Maruzen Co. Ltd., Cambridge House, Room 502B, 333 West 86 St., New York 24, N. Y. $6.50. (1391)

The growth of the Japanese cotton industry; basic factors in its development; capital and management; raw cotton imports and market fluctuations; production, distribution, and consumption of cotton products; labor; controls; Japan's position in the world cotton industry; and the future of the Japanese cotton industry. 10 charts, 36 tables, and 74 appended tables. Bibliography.

THE TEXTILE INDUSTRY IN WESTERN EUROPE. W. H. Simpson (Duke Univ.). Textile Bull. 82: 81-82 (Nov. 1956). (1392)

POTENTIAL CONTRIBUTIONS OF CANADIAN LABORATORIES TO THE TEXTILE INDUSTRY. Can. Textile J. 73: 41-48 (Dec. 28, 1956). (1393)

Summary of textile research activities at the Canadian National Research Council; Ontario Research Foundation; McGill University; Hamilton Institute of Technology; Thomson Research Associates, Ltd.; and Canadian Research Laboratory, Johnson & Johnson Ltd.

APPLICATION OF SCIENCE IN THE COTTON INDUSTRY. D. W. Hill (Brit. Cotton Ind. Res. Assoc.). Textile Mfr. 82: 607-610 (Dec. 1956). (1394)

The four main areas in which science may be applied to the cotton industry, raw materials, processing, operational research, and development of new or improved products, are briefly discussed, and future directions are pointed out.

DAVISON'S TEXTILE CATALOGUES AND BUYERS' GUIDE, 1956. Davison Pub. Co., Ridgewood, N. J. 1956. 401 p. $12.00. (1395)

A textile industry file of catalogs from manufacturers and distributors of textile machinery, equipment, and mill supplies. A buyers' guide (arranged by subject) and a list of brands and trade names of chemicals, dyes, etc., are also included.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

YARN PRODUCTION B

PROCESS FOR CRIMPING YARN. J. Billion (to Billion & Cie). BP 746 410, Mar. 14, 1956. Through BCIRA 36: 715 (1956). (1396)

A process is described for converting yarns of the nylon type into bulked yarns having a helical profile. The yarn is wound at least once around a support, drawn at one end, and heat-set while still deformed. The support may be a smooth or helically-grooved cylinder, or the yarn may be wrapped around itself, or two yarns may be wrapped together. The heat treatment may be provided by passing the yarn through a coil of resistance wire.

PROCESS FOR CRIMPING SYNTHETIC FIBERS. Heberlein & Co. AG. BP 746 992, Mar. 21, 1956. Through BCIRA 36: 715 (1956). (1397)

Smooth yarn of the ordinary low-twist type is given a temporary high twist in a false-twisting device and then subjected to a wet and/or heat treatment. The device for withdrawing the yarn from the twister runs at least 0.5% faster than the feeding device. Examples relate to nylon, Perlon, Orlon, and Terylene.

OPENING, PICKING, FIBER PREPARATION B 1

COLLECTING AIRBORNE FIBERS. W. J. Senior (to T.M.M. (Research) Ltd). BP 748 098, Apr. 18, 1956. Through BCIRA 37: 69 (1957). (1398)

In an apparatus of the suction cage type for collecting loose fiber from an air-stream, adjustable baffles are provided within the suction nozzle near the intake orifice for the purpose of securing a more intense draught at the end regions of the nozzle where it is otherwise least concentrated. A more even deposit of fiber on the cage is claimed.

CARDING AND COMBING B 2

RECIPROCATORY TRAVERSE MECHANISM FOR CARDING ENGINE FEED APPARATUS. J. Bird (to T.M.M. (Research) Ltd). BP 748 097, Apr. 18, 1956. Through BCIRA 37: 69 (1957). (1399)

The invention relates principally to a Scotch feed apparatus for a carding engine and aims to deliver a slight excess of fiber per unit length of traverse at the ends of the stroke of the feed element so as to improve the regularity of the product at a subsequent stage.

HIGH SPEED CARDING MACHINE. E. L. Kaufman and R. J. Spellmire (to Stearns & Foster Co.). USP 2 788 547, Apr. 16, 1957. (1400)

High speed carding machine capable of selfdischarging carded fibers from its clothing without the use of doffer roll and comb or periodic shutdowns for recleaning. The fibers in the card web are laid in heterogeneous directions, giving high tensile strength both crosswise and lengthwise to the nonwoven fabrics made from the web.

DRAWING AND ROVING B 3

ROLLER CLEANING DEVICES FOR DRAFT SYSTEMS. Ernst Toenniessen KG. BP 747 959, Apr. 18, 1956. Through BCIRA 37: 70 (1957). (1401)

An underclearer for a drafting roller system, especially one associated with a flyer, is held in position at the forward end by a releasable locking device and is suspended at the rear in such a way that on hinging down it moves forward.

TOP DRAFTING ROLL WEIGHTING MECHANISM. R. Balmes Solanas (Spain). USP 2 787 025, Apr. 2, 1957. (1402)

Resilient metal pressure arm located at the upper part of the drafting rolls and arranged so that pressure is automatically and proportionally transmitted to all the top rolls requiring pressure.

CLEARER ROLLS. J. T. White. USP 2 787 026, Apr. 2, 1957. (1403)

Pile fabric cover for clearer rolls in which the pile is inclined at a 45° angle. Fly and lint may easily be removed.

CLEARER ROLL COMBINING A SLIDING ACTION WITH A ROLLING ACTION. N. E. Klein (to Deering Milliken Research Corp.). USP 2 787 811, Apr. 9, 1957. (1404)

TOP ROLL WEIGHTING MECHANISM. E. Dausch (to SKF Kugellagerfabriken GmbH). USP 2 789 320, Apr. 23, 1957. (1405)

Saddle for top roll weighting mechanism which acts on top belt cage to give proper alignment.

SPINNING, WINDING, TWISTING B 4

FLYERS FOR UPTWISTERS. F. Ridgway (to Arundel, Coulthard & Co. Ltd). BP 746 626, Mar. 14, 1956. Through BCIRA 36: 714 (1956). (1406)

A flyer for use in the uptwisting of yarn from double-flanged bobbins has a renewable and self-threading yarn guide located in a cut-away portion of the rolled edge of the flyer cap that revolves around the upper flange of the bobbin. The guide is formed of a piece of bent wire.

SELF-ADJUSTING YARN TENSION DEVICE, PARTICULARLY FOR WINDING. A. Brugger (Switzerland). BP 746 858, Mar. 21, 1956. Through BCIRA 36: 717 (1956). (1407)

YARN TENSION DEVICE FOR WINDING MACHINES. J. V. Reyes (Spain). BP 746 878, Mar. 21, 1956. Through BCIRA 36: 717 (1956). (1408)

The invention relates to a device for automatically securing virtually constant tension in winding and for preventing the tension from rising above a predetermined maximum. It employs two pairs of spring-urged tension discs and two levers, one at the inlet end of the device and one at the outlet.

YARN GUIDE. E. A. Tashjian (to Universal Winding Co.). USP 2 781 987, Feb. 19, 1957. (1409)

FORMING TRANSFER TAILS IN CAP TWISTERS DURING CONTINUOUS PROCESS ARTIFICIAL YARN COLLECTION. K. M. McLellan (to Industrial Rayon Corp.). USP 2 787 112, Apr. 2, 1957. (1410)

TUBE DRIVE TWISTER. W. F. Rea (to L. O. F. Glass Fibers Co.). USP 2 787 113, Apr. 2, 1957. (1411)

Feed control for limiting twist and rate of wind of glass yarns fed to a ring twisting and winding apparatus.

SELF-BALANCING SPINDLE. L. W. Jenkins. USP 2 787 114, Apr. 2, 1957. (1412)

Two-member universally-connected spindle bearing construction provides for self-balancing and self-centering of the spindle base, eliminating vibration and stresses at high speed operation.

HIGH SPEED JUTE SPINNING FRAMES. A. Gardella and C. Gardella (Italy). USP 2 787 883, Apr. 9, 1957. (1413)

Jute, hemp, flax, sisal, etc., spinning frame combining centrifugal can spinning with a draft unit with a ratio of at least 1:30. The unit is provided with sliver control means and a friction device between the drafting unit and collecting can for controlling the yarn during twisting.

SPINNING FRAME FOR BAST FIBERS, PARTICULARLY JUTE. H. Bade (to James Mackie & Sons Ltd). USP 2 788 631, Apr. 16, 1957. (1414)

TENSION CONTROL IN TWISTING MACHINES. W. Dewhirst (to Haskell-Dawes Machine Co.). USP 2 788 632, Apr. 16, 1957. (1415)

Control of tension in twisting machines in which the yarn is delivered at a constant rate to a driven take-up or winding reel and is wound on it by means of a flyer.

SPINDLE CENTERING DEVICE. L. Birkigt (to Hispano Suiza (Suisse) SA). USP 2 788 633, Apr. 16, 1957. (1416)

Worm and worm wheel control device for centering spindles in spinning or twisting frames of the rocking spindle type.

TWIST ARRESTORS FOR YARN TWISTERS. H. Crouzet (to Ateliers Roannais de Constructions Textiles). USP 2 788 634, Apr. 16, 1957. (1417)

Mechanism for arresting twist back-feeding on uptwisters (or downtwisters) without increasing (or decreasing) filament tension.

AUTOMATIC DOFFING APPARATUS FOR YARN WINDING MACHINE. S. A. Petersen and H. Chow (to Celanese Corp.). USP 2 789 774, Apr. 23, 1957. (1418)

YARNS B 5

ABRADED MULTIPLE-PLY YARN. R. MacHenry (to Am. Viscose Corp.). USP 2 781 555, Feb. 19, 1957. (1419)

Combined abrading and winding machine for producing a roughened surface on continuous filament tire cord yarn for better adhesion during vulcanization.

PHOSPHORESCENT CARPET YARN. H. E. Wadely (to Firth Carpet Co.). USP 2 787 558, Apr. 2, 1957. (1420)

Luminous wear-resistant carpet face yarn is made by impregnation with a solution containing a phosphorescent pigment, casein, and polyvinyl acetate.

FABRIC PRODUCTION C

BRAIDING MACHINE. A. Crossley, H. M. Crossley and H. Crossley (England). USP 2 788 700, Apr. 16, 1957. (1421)

Braiding machine for producing thick-walled tubular textile or wire braid for use in electrical cables, cordage, engine packing, etc.

WARPING, SLASHING, YARN PREPARATION C 1

ANTISTATIC TREATMENT. W. Baird, J. W. Batty, J. F. Harris and G. T. Jones (to Imp. Chem. Ind. Ltd). BP 747 827, Apr. 18, 1956. Through BCIRA 37: 72 (1957). (1422)

An antistatic dressing for synthetic polymer and cellulose acetate yarns consists of an organic polyisocyanate and a polyethenoxy compound having at least two OH groups in the molecule.

YARN CLEANERS. Zellweger Ltd (Switzerland). BP 747 836, Apr. 18, 1956. Through BCIRA 37: 71 (1957). (1423)

The invention relates to means offering a tapered passage for breaking the yarn in association with a slub catcher of the inclined slot type.

WINDING OR UNWINDING YARNS, ETC. Gebr. Sucker GmbH. BP 747 978, Apr. 18, 1956. Through BCIRA 37: 72 (1957). (1424)

The invention is concerned primarily with securing constant tension in the winding of groups of strips, yarns, etc., on or off a drum. A differential gear is used to control the mechanism so that the ratio of the speed of feeding to the speed of winding is constant.

WARPING MACHINE STOP MOTION DROP WIRE SWITCH. P. N. Smith (to Deering Milliken Research Corp.). USP 2 787 044, Apr. 2, 1957. (1425)

SIZING ACRYLIC YARNS. C. G. Caldwell, O. B. Wurzburg and L. D. Fitzgerald (to National Starch Products Inc.). USP 2 788 293, Apr. 9, 1957. (1426)

Process for warp sizing acrylic yarns with starch in the presence of a metallic salt.

WEAVING C 2

SHUTTLE GUARD. A. Greenwood and F. Hartley. BP 746 173, Mar. 14, 1956. Through BCIRA 36: 717 (1956). (1427)

A shuttle guard is fitted with a locking device that automatically holds it in its inoperative position as soon as the weaver moves it there. It is positively unlocked by means that operate as soon as the lay begins to move so that the guard is restored to its operative position before the shuttle moves out of the box for a new pick.

CONTROLLING THE WARP IN LOOMS. Sulzer Frères SA (Switzerland). BP 747 443, Apr. 4, 1956. Through BCIRA 37: 17 (1957). (1428)

Clutch mechanism for controlling the tension in a warp, even while the warp is being let off from the beam.

AUTOMATIC BOBBIN CHANGING DEVICE FOR LOOMS. Valentin Patent GmbH and Textilmaschinenfabrik Schwenningen GmbH. BP 747 044, Mar. 28, 1956. Through BCIRA 37: 16 (1957). (1429)

An automatic bobbin changing device for looms with a stationary curved bobbin magazine and a revolving thread guiding disc is made of an endless traveling bobbin-tip spacing mechanism provided with cavities or projections at intervals corresponding with the diameter of each bobbin head, and a bobbin feed lever. The parts are so arranged that the movement of the bobbins and spacing mechanism is effected solely by the operation of the lever.

PICKER FOR UNDERPICK LOOMS. Staub & Co. AG (Switzerland). BP 747 548, Apr. 4, 1956. Through BCIRA 37: 16 (1957). (1430)

The invention relates to the cutting, folding, and stitching together of two bands of nonmetallic material to form a solid picker head without the insertion of a special propeller plug. Details are shown on two sheets of drawings.

TUFTED CARPET. W. A. Kenyon (to William Kenyon & Sons Ltd). BP 747 640, Apr. 11, 1956. Through BCIRA 37: 72 (1957). (1431)

A low-melting form of nylon is used as a bonding medium for the tufts of a carpet. Thus, a Wilton carpet is woven with hemp weft that has been impregnated with an alcoholic solution of a nylon polymer, m.p. about 200° C, and a high-melting nylon yarn for the pile tufts. Alternatively, a carpet is woven in the usual way and the bonding solution is painted on its back cloth. The carpet is heated on a hot surface or in an oven to melt the bonding agent and then cooled.

DEVICE FOR FILLING A CONTAINER WITH BOBBINS. Maschinenfabrik Schweiter AG. BP 747 996, Apr. 18, 1956. Through BCIRA 37: 71 (1957). (1432)

In a device for filling a container with bobbins by means of a lowerable bobbin support (e.g., a belt) the support is lowered step by step by means operated by way of an overload clutch that prevents an undesirable accumulation of bobbins in the supply.

SHUTTLE PROPELLING MECHANISM. W. Wade (to Am. Viscose Corp.). USP 2 784 743, Mar. 12, 1957. (1433)

Modified internal combustion engine for shuttle propulsion at high speeds to weave fabrics wider than those obtainable at present.

LOOM LET-OFF. J. O. Hunt. USP 2 786 491, Mar. 26, 1957. (1434)

Adjustable warp beam positive let-off which operates continuously at a constant velocity and tension.

PICKING MOTION FOR WIDE LOOMS. T. F. Rapp and R. J. Demartini (to F. C. Huyck & Sons). USP 2 787 290, Apr. 2, 1957. (1435)

Electromagnetic clutch for actuating the picking mechanism of wide looms used in weaving papermakers felts, carpets, etc.

LOOM FEELER MECHANISM FOR FINE YARNS. C. L. Whitley, Sr. USP 2 787 291 and 2 787 292, Apr. 2, 1957. (1436)

HARNESS FOR CROSS WEAVING. F. H. Kaufmann (to Steel Heddle Mfg. Co.). USP 2 788 021, Apr. 9, 1957. (1437)

TRANSPORTING GRIPPER SHUTTLES. E. Pfarrwaller (to Sulzer Frères SA). USP 2 788 022, Apr. 9, 1957. (1438)

Device for transferring gripper shuttles from a conveyor (returning idle shuttles) into the picking position, after insertion of a weft thread.

ADJUSTABLE BOBBIN HOLDER OR GRIPPER SPRING DEVICE FOR SHUTTLES. A. D. Bousquet. USP 2 788 024, Apr. 9, 1957. (1439)

ELECTRICAL WEFT STOP MOTION FOR NARROW FABRIC LOOM. L. O. Waterhouse, A Cederlund and K. J. Hall (to Crompton & Knowles Loom Works). USP 2 788 025, Apr. 9, 1957. (1440)

MECHANICAL WEFT INSERTER CARRIAGE. M. Claeys (France). USP 2 788 805, Apr. 16, 1957. (1441)

DAMPING DEVICE FOR THE PICKER-STICK. J. Picanol (Belgium). USP 2 788 806, Apr. 16, 1957. (1442)

V-shaped straps and supports for braking the picker-stick in either direction.

NARROW FABRIC LOOM. C. Devaud (Switzerland). USP 2 789 583, Apr. 23, 1957. (1443)

In a narrow fabric loom the double weft thread, forming a loop, is inserted successively by a needle between the warp threads. It is engaged by a hook and pulled by the hook around a bobbin carrying an auxiliary thread, causing the auxiliary thread to pass into the loop.

WEFT SELECTOR MECHANISM FOR DROP BOX MOTION LOOMS. F. Davies, J. F. Moseley and I. H. Thomas (to Brit. Cotton Industry Res. Assoc.). USP 2 789 584, Apr. 23, 1957. (1444)

KNITTING C 3

VERGE PLATE FOR FULL-FASHIONED KNITTING MACHINERY. A. J. Cobert (to Beautiful Bryans, Inc.). USP 2 787 146, Apr. 2, 1957. (1445)

A verge plate for a flat full-fashioned knitting machine with individually movable yarn measuring sinkers has an impact edge of hardened metal mounted on a synthethic rubber cushioned base.

CIRCULAR HOSIERY MACHINE KNOT TIER. C. H. Wainwright and A. W. Kent (to Bentley Engineering Co. Ltd). USP 2 787 147, Apr. 2, 1957. (1446)

Increasing the patterning and production capacities of circular hosiery machines producing both plain or rib fabrics by means of a knot tier equipped with a number of selectors which can feed any number of yarns desired.

SECTIONAL SUPPORTING FRAME FOR KNITTING MACHINE STOP MOTIONS. E. Vossen (to Stop-Motion Devices Corp.). USP 2 787 148, Apr. 2, 1957. (1447)

CONTROLLING FRICTION ROD STROKE IN FULL-FASHIONED HOSIERY MACHINES. F. Flämig and W. Koblitz (to Schubert & Salzer Maschinenfabrik AG Ingolstadt). USP 2 787 898, Apr. 9, 1957. (1448)

CLOSING TOE OF CIRCULAR KNIT HOSE. J. L. Getaz. USP 2 787 899, Apr. 9, 1957. (1449)

Closing the toe of circular knit hose by sewing the end of the toe-pocket portion to the end of the instep portion.

WARP KNITTING MACHINE WARP BEAM LETOFF CONTROL MECHANISM. C. V. Currin and W. T. Perkins, Jr. (to J. P. Stevens & Co.). USP 2 789 421, Apr. 23, 1957. (1450)

YARN FEEDING MEANS FOR CIRCULAR KNITTING MACHINES. E. V. Mills (to Handcraft Co.). USP 2 789 422, Apr. 23, 1957. (1451)

To permit conventional machines to knit rib plated tubular fabrics from bulky stretchable synthetic yarns.

DRAWING OFF AND DELIVERING HOSIERY BLANKS ON STRAIGHT-BAR KNITTING MACHINES. J. Václavík and F. Tylajka (to Zapadomoravske Strojirny). USP 2 789 423, Apr. 23, 1957. (1452)

FABRICS C 4

REINFORCED PLASTICS. A. Bane and V. E. Yarsley (to Polychemical Developments Ltd). BP 747 726, Apr. 11, 1956. Through BCIRA 37: 72 (1957). (1453)

Plastics are reinforced by means of chenille threads (or fabrics woven from them) each thread formed of twisted wire gripping tufts of fiber.

PILE CARPET WEAVING. C. Lyle (to James Lees & Sons Co.). USP 2 783 776, Mar. 5, 1957. (1454)

Axminster-type carpet having a high ratio of pile yarn to backing yarn is produced by inserting a weftwise row of pile tufts for each double upper weft shot.

REINFORCED PLASTIC PIPES OR CONDUITS. J. F. Stephens (to Minnesota Mining & Mfg. Co.). USP 2 783 174, Feb. 26, 1957. (1455)

Manufacture of hollow articles by winding fibrous filaments (or yarns, mats, fabric strips, etc.) around a mandrel, coating with resin, and curing before removal from the mandrel. The inner face is free from contact with the mandrel so that the mandrel can be easily withdrawn.

AIR PERMEABLE FIBROUS BATT. E. N. Maisel (to Fiber Bond Corp.). USP 2 784 132, Mar. 5, 1957. (1456)

Porous nonwoven insulating batts, suitable for use as interlining, air or gas filters, or packing material and capable of being drycleaned or pressed, are formed by curing randomly arranged (in 3 dimensions) synthetic fibers lightly sprayed with latex.

TUFTED CARPETS WITH TAPED EDGES. W. Ebersold (to James Lees & Sons Co.). USP 2 784 414, Mar. 12, 1957. (1457)

Straight and parallel edges are produced on tufted carpets by securing tapes to the fabric backing during the tufting operation.

CELLULOSE ACETATE FABRIC COATED WITH POLY-p-XYLENE. W. Kirk, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 785 090, Mar. 12, 1957. (1458)

Water-resistant, electrically insulated, and corrosion resistant industrial fabrics, particularly useful for filters, are produced by coating cellulose acetate with poly-p-xylene.

CARPET TUFTING MECHANISM. D. A. Mitchell. USP 2 785 643, Mar. 19, 1957. (1459)

Easily operated tufting mechanism for piercing the backing of a completed carpet to form tufts on the face according to a predetermined pattern.

INFLATABLE MATTRESS FABRICS. C. E. Neisler, Jr. USP 2 785 705, Mar. 19, 1957. (1460)

A waterproof inflatable mattress fabric formed from a pair of laterally spaced woven fabric layers connected by a series of threads. The mattress can be inflated to a controlled curvature.

JOINING ENDS OF CLOTH TO MAKE AN ENDLESS BELT FOR PAPERMAKERS BELTS, BLEACH CLOTHS, ETC. A. Axelsson (Denmark). USP 2 786 256, Mar. 26, 1957. (1461)

Automatic machine for tying the ends of the warp threads in a piece of cloth in such a manner that one end of each thread may be used in drawing the other end of the thread through the filling threads to produce a smooth seamless joint.

PILE CARPETS. J. Waage (Norway). USP 2 786 508, Mar. 26, 1957. (1462)

Pile carpets are produced inexpensively by wrapping continuous lengths of material around a core to form a helical coil, forming a sheet of parallel rows of the coils, fastening together with an adhesive, slitting, and removing the cores through the slits.

LAMINATED FABRIC. J. J. Klein and E. N. Maisel (to Fibre Bond Corp.). USP 2 786 790, Mar. 26, 1957. (1463)

Laminated fabric with a bonded fibrous synthetic fiber batt base on a thermoplastic backing sheet.

FLAT BACK AXMINSTER FABRIC WITH IMPROVED TUFT BIND. E. P. Mersereau, Jr. and D. Karpoff (to Mohasco Industries). USP 2 787 293, Apr. 2, 1957. (1464)

NONWOVEN PILE FABRIC. P. Miller (to Mohasco Industries). USP 2 787 571, Apr. 2, 1957. (1465)

Fabric produced by adhering a sheet of parallel ends of yarn onto a stretched woven or nonwoven backing, so that when the backing is released the yarn is forced into upstanding pile loops.

RESILIENT FIBROUS MATS. R. E. Schwartz (to Malloran Corp.). USP 2 787 572, Apr. 2, 1957. (1466)

Resilient fibrous mats, suitable for vibration damping, are produced by applying an elastomer to loose fibers (preferably glass but may be any fiber suited to the end use), shaping into a mat, setting the elastomer, applying a resin, and curing.

DISPOSABLE DIAPERS. G. V. N. Morin (to Chicopee Mfg. Corp.). USP 2 788 003, Apr. 9, 1957. (1467)

Disposable diapers, etc., consisting of a layer of inexpensive flocky absorbent material (such as fluffed woodpulp) covered with a moisture permeable nonwoven web intermittently bonded with a thermoplastic adhesive. A backing sheet is moisture repellent.

WOVEN ELASTIC FABRIC. J. V. Moore (to Moore Fabrics, Inc.). USP 2 788 026, Apr. 9, 1957. (1468)

Selvage for an elastic (warp-wise) open-weave fabric consists of weft threads, an inner group of elastic warp threads, and an outer group of inelastic but stretchable contracted warp threads. All the warp threads are woven in stretched condition.

PACKAGING LOOSE MINERAL FIBER INSULATION MATS. W. H. Mosier (to Owens-Corning Fiberglas Corp.). USP 2 789 406, Apr. 23, 1957. (1469)

MANUFACTURE OF NONWOVEN PILE FABRICS. M. Brookes and E. E. Sunderland (to Fabric Development Co. Ltd). USP 2 788 835, Apr. 16, 1957. (1470)

Method and apparatus for manufacturing pile fabrics by assembling layers of yarn or sliver in a mold, solidifying them into a block by means of an alginate gel, cutting transversely to form slabs which are backed with a plastic or other layer so that the tips of the pile are fixed in the backing. The gel is then removed from the pile.

LAMINATED BALLISTIC FABRIC. L. P. Frieder and W. S. Finken. USP 2 789 076, Apr. 16, 1957. (1471)

Ballistic fabric composed of a number of woven fabric laminates, formed from yarns of highly spun threads having a predetermined number of convolutions per unit length, and bonded together at spaced intervals.

BULKY FABRICS. A. Cresswell (to Am. Cyanamid Co.). USP 2 789 340, Apr. 23, 1957. (1472)

Bulky, warm, resilient, quick-drying, soft, and lightweight fabrics are produced by knitting or weaving two ply twisted polyacrylonitrile filament yarns, one with a residual shrinkage of 0 to 3% and the other 15 to 30%, and heat treating to obtain differential shrinkage.

FINISHING AND CHEMICAL PROCESSING D

CHEMICAL PROCESSES D 1

OXADIAZOLE DERIVATIVES FOR FLUORESCENT OPTICAL BRIGHTENING AGENTS AND FOR MAKING TEXTILES IMPERMEABLE TO ULTRAVIOLET RAYS. Ciba Ltd. (Switzerland). BP 746 046, Mar. 7, 1956. Through BCIRA 36: 722 (1956). (1473)

PAINT-LIKE EMULSIONS FOR COATINGS, DYEINGS, PRINTS, ETC., WHICH ARE FAST TO WASHING AND CROCKING. Ciba Ltd. (Switzerland). BP 746 394, Mar. 14, 1956. Through BCIRA 36: 723 (1956). (1474)

SILICEOUS COATING FOR ANTISNAG OR NONSLIP FINISHES. J. Payne and E. Smith (to Monsanto Chemicals Ltd). BP 746 483, Mar. 14, 1956. Through BCIRA 36: 723 (1956). (1475)

HEAT INSULATED FABRICS. S. Converse (to Graniteville Co.). USP 2 769 722, Nov. 6, 1956. (1476)

Heat-insulated fabrics, suitable for clothing, are prepared by applying an insulating coating containing aluminum powder to a base fabric and applying a second coating (containing coloring pigments instead of metallic powder) to protect the insulating layer.

PLEATED NYLON TRIMMING. R. A. Gordon. USP 2 769 740, Nov. 6, 1956. (1477)

Nylon trimming with pleats secured at edge by impregnation with a polyvinyl resin with a lower melting point than the nylon trimming.

RESIN IMPREGNATED POLYTETRAFLUOROETHYLENE INDUSTRIAL FABRICS. E. A. Rodman (to E. I. du Pont de Nemours & Co.). USP 2 773 781, Dec. 11, 1956. (1478)

Industrial fabrics with high mechanical strength and resistance to high temperatures and corrosion are prepared by impregnating woven or nonwoven polytetrafluoroethylene fabrics with a copolymer of tetrafluoroethylene and hexafluoropropylene.

BLEACHING AND CONDITIONING WITH HYDROGEN PEROXIDE. J. H. Young (E. I. du Pont de Nemours & Co.). USP 2 777 749, Jan. 15, 1957. Through Chem. Abstracts 51: 5442f (1957). (1479)

Textiles, wood pulp, and food are bleached in the solid state, containing only 5-75% water, with hydrogen peroxide vapor until 0.01-3.0% has been absorbed. The vapor can be mixed with an inert gas. Higher temperatures speed the reaction. Concentrations of 1.0-100 mg. hydrogen peroxide per l. of inert gas are recommended. The examples include descriptions of treatment of cotton muslin, polyacrylonitrile fabric, and nylon taffeta.

LIQUID TREATMENT APPARATUS FOR VISCOSE TOW. E. L. Coe and W. P. Dooley (to Am. Viscose Corp.). USP 2 782 623, Feb. 26, 1957. (1480)

For removing carbon disulfide and spinning bath chemicals from freshly coagulated continuous tows of viscose filaments.

HIGH SPEED APPARATUS FOR LIQUID TREATMENT OF FABRICS. A. Brunner and G. Veronesi (to Mezzera Societa per Azioni). USP 2 783 633, Mar. 5, 1957. (1481)

High speed apparatus for fabric washing, bleaching, dyeing, etc., which eliminates tangling and knotting by means of specially curved surfaces and the use of oscillating combs for guiding the fabric.

WATERPROOFING CELLULOSE ACETATE. H. W. Jacobson (to E. I. du Pont de Nemours & Co.). USP 2 784 052, Mar. 5, 1957. (1482)

Breathable waterproof films, fabrics, and yarns of regenerated cellulose (e.g., cellulose acetate) with good hand are prepared by saponifying cellulose acetate containing an internally deposited hydrophobic vinylidene polymer (e.g., polystyrene) and treating with a solvent to remove any extractable polymer.

CREASEPROOFING COMPOSITION. B. H. Kress (to Quaker Chem. Products Corp.). USP 2 785 996, Mar. 19, 1957. (1483)

Durable cellulose fabrics, free from chlorine retention in bleaching, are produced by treatment with a dialdehyde and pentaerythritol and heating under acidic conditions to form a polyacetal.

CYANOETHYLATED COTTON. J. Compton and C. P. Jones (to Inst. of Textile Tech.). USP 2 786 258 and 2 786 735, Mar. 26, 1957. (1484)

Partially cyanoethylated cotton, having the crystallinity, appearance, and hand of native cotton, as well as increased abrasion resistance, resistance to microbiological degradation, tensile strength, moisture resistance, and dye affinity, is prepared by presteeping cotton in aqueous sodium hydroxide, removing the unabsorbed liquid, and reacting with acrylonitrile in liquid or vapor form at comparatively high temperatures in the shortest time permissible to obtain a given nitrogen content.

HIGH MELTING POINT POLYCAPROLACTAM YARNS. R. Gabler (to Inventa AG). USP 2 786 732, Mar. 26, 1957. (1485)

The melting point of polycaprolactam yarns and tire cord is increased 80-150° C by cold-drawing to extend the filaments 350-400% of their original length, drying, and reacting with dry gaseous formaldehyde at 120-180° C.

FIXING MECHANICAL FINISHES ON CELLULOSIC MATERIALS. J. G. Evans, J. H. Leach and W. S. Meals (to Bradford Dyers' Assoc. Ltd). USP 2 786 734, Mar. 26, 1957. (1486)

Mechanical finishes are given improved resistance to laundering and moisture by first impregnating cellulosic materials with an aqueous emulsion of isocyanate-bisulfite addition salts, drying or partially drying, applying the mechanical finish, and heating.

PROCESS AND APPARATUS FOR TREATING FILAMENTARY MATERIAL. R. H. Roughsedge (to Celanese Corp.). USP 2 786 736, Mar. 26, 1957. (1487)

In this apparatus for the liquid treatment of filamentary materials, an endless belt (trained up and down in a zig-zag path around a series of rolls) supports the tensionless filamentary material during treatment. It is not necessary to wind and rewind the filamentary material into packages.

ALUMINUM PHOSPHATE SOIL RESISTANT FABRIC TREATMENT. P. A. Florio (to Mohasco Industries). USP 2 786 787, Mar. 26, 1957. (1488)

Surface soiling of plain or pile fabrics is reduced, without changing color or hand, by an immersion, spraying, or dipping treatment with a liquid dispersion of aluminum phosphate.

FINISHING WOVEN TWISTED PAPER. J. V. Crawford (to Laurel Plastics, Inc.). USP 2 787 045, Apr. 2, 1957. (1489)

High strength liquid-resistant woven paper fabric, suitable for use as an automobile lining, is prepared by impregnation with wax, dry and hot calendering, impregnation with a resin latex solution, and a second cold calendering.

AMINE TREATMENT FOR CYANOETHYLATED COTTON. J. Compton and R. P. Barber (to Inst. of Textile Technology). USP 2 787 516, Apr. 2, 1957. (1490)

Cyanoethylated cotton yarns and fabrics of increased tensile strength, elongation, and abrasion resistance are produced by impregnation with a water-soluble amine.

LIQUID APPLICATOR FOR UPWARDLY-RUNNING STRAND. H. J. McDermott (to Am. Viscose Corp.). USP 2 787 980, Apr. 9, 1957. (1491)

ABRASION RESISTANT NYLON WEBBING. L. J. Renaud. USP 2 788 023, Apr. 9, 1957. (1492)

Abrasion resistant nylon webbing for use in parachute harnesses is made of warp threads plied together with a twist multiplier of 7 to 58, each warp thread made of continuous nylon filaments with a net twist such that the twist multiplier is at least 116.

RADIATION RESISTANT FABRIC. J. M. Stertz. USP 2 788 291, Apr. 9, 1957. (1493)

Lightweight radiation resistant fabrics are prepared by waterproofing and fireproofing to protect against subsequent processing, spraying with a solution of 80% lead, 12% sulfur dioxide, and 8% aluminum, and curing at 100-320° F. This protective composition resists alpha, beta, and gamma radioactive particles of matter in the air, in water, fire, or dust.

SOIL RETARDING TREATMENT. T. F. Cooke and E. S. Pierce (to Am. Cyanamid Co.). USP 2 788 295, Apr. 9, 1957. (1494)

Soil-resistant fibers and fabrics are obtained by impregnation with aqueous dispersions of titania monohydrate under acidic conditions.

PERMANENT RESIN FINISHING OF CELLULOSE WITH VINYL AND ALLYL COMPOUNDS. C. A. Fetscher (to Cluett, Peabody & Co.). USP 2 789 030, Apr. 16, 1957. (1495)

A method is described for permanent resin finishing of cellulose with vinyl and allyl compounds. The cellulose and the resin are chemically combined. In the first step the cellulose is modified topochemically into a polymerizable monomer. In the second step the polymerizable cellulose derivative is copolymerized with a polymerizable monomer.

METHYLHYDROGENPOLYSILOXANE WATERPROOFING COMPOSITION. H. Eder (to Wacker Chemie GmbH). USP 2 789 956, Apr. 23, 1957. (1496)

Waterproofing composition for fibers, yarns, or fabrics uses an aqueous emulsion of methylhydrogenpolysiloxane and a water soluble zirconyl salt. The treated material is heated about 5 to 10 min. at 130-140° C.

WARP PREPARATION FOR FINISHING RUNNING YARNS. R. T. Lynch, C. F. Nichols and H. P. Rilling (to Am. Enka Corp.). USP 2 789 339, Apr. 23, 1957. (1497)

Warp preparation from continuously spun and after-treated yarns to permit a large number of running rayon yarns to be finished simultaneously.

DYEING AND PRINTING D 2

ADDITION OF SODIUM CHLOROACETATE TO DYE BATHS FOR WOOL AND NYLON. E. A. Roff (to Albright & Wilson Ltd). BP 746 474, Mar. 14, 1956. Through BCIRA 36: 722 (1956). (1498)

UNIFORM DYEING. S. N. Bradshaw (to Courtaulds Ltd). BP 747 622, Apr. 11, 1956. Through BCIRA 37: 78 (1957). (1499)

More uniform dyeing is claimed for a process in which the textile material is impregnated at room temperature with the dye in the presence of an excess of urea (sufficient to add 40-55% to the weight of the dry material), dried and baked at a temperature between the m.p. of urea and 160° C, followed by washing. The process is applicable to dyes that dissolve in molten urea, especially direct cotton colors, and to materials that withstand the baking temperature.

MEANS FOR WITHDRAWING TEST PIECES FROM A PRESSURE DYEING SYSTEM WITHOUT DISTURBING NORMAL OPERATION. Scholl AG. BP 747 802, Apr. 11, 1956. Through BCIRA 37: 78 (1957). (1500)

An intermediate conduit, of transparent material, connects a valve on the autoclave with a closure member, e.g. a stuffing box. The test piece is fastened to a string that passes through the closure member. The valve has at least one operative surface made of resilient material so that the string and test piece may be pulled through it. When a test piece is to be removed, the valve is closed and the closure member opened.

CONTINUOUS PRESSURE DYEING APPARATUS. H. M. Brown (to Clemson College). USP 2 781 655, Feb. 19, 1957. (1501)

Full-width cloth is passed continuously through a chamber or series of chambers containing high temperature, high pressure dye liquor.

OXIDATION DYEING WITH ANILINE-4-SULFAMIC ACID. R. L. Lantz and P. M. J. Obellianne (to Compagnie Francaise des Matieres Colorantes S.A.R.L.). USP 2 783 121, Feb. 26, 1957. (1502)

DYEING CELLULOSIC MATERIALS WITH METALLIZABLE DIRECT DYESTUFFS. J. Gross, K. Menzi and J. Wegmann (to Ciba Ltd). USP 2 785 040, Mar. 12, 1957. (1503)

Metallizable direct dyes, forming sparingly soluble metal complexes, are used to dye cellulose by adding a compound yielding metal to a bath containing a small amount of non-metallized dye and polyphosphoric acid anions.

DYEING AND FINISHING PILE FABRICS. E. J. Grajeck, J. F. Kalina and C. T. Wagner, Jr. (to Collins & Aikman Corp.). USP 2 785 042, Mar. 12, 1957. (1504)

A continuous process for uniform dyeing and finishing of synthetic fiber pile fabrics consists of cold dyeing followed by steam ageing with only the back of the fabric contacting the plain rolls and the pile surface passing over spaced pin rolls to keep the pile in its upright condition.

MULTI-COLORED DURABLE TIPPED EFFECTS ON EMBOSSED FABRICS. R. S. Babiarz and H. A. Wallace (to Joseph Bancroft & Sons Co.). USP 2 785 081, Mar. 12, 1957. (1505)

Resin impregnated fabric is embossed and then run through the tipping machine. The number of passes through the machine depends on the number of levels to be colored. The spacing of the tipping rollers determines the particular level to be color tipped. The embossed pattern and color (which contains a thermosetting resin) are then fixed by heating.

AZOIC PRINTING. J. Riedmair, H. Rein and M. Kerth (to Cassella Farbwerke Mainkur AG). USP 2 786 731, Mar. 26, 1957. (1506)

In this azoic printing method a paste composed of a diazoamino compound, a coupling component, and an alkali metal salt of α,α'-dichloroadipic acid melting at 176-178° C is applied and developed by neutral steaming.

MECHANICAL PROCESSES D 3

SHRINKING KNITTED FABRIC. S. Anderson (Sweden). BP 747 981, Apr. 18, 1956. Through BCIRA 37: 79 (1957). (1507)

The apparatus consists of two or more pairs of rollers driven at different speeds and two endless helical springs that run around the top and bottom rollers. These springs are accommodated in wedge-shaped grooves in the rollers and the knitted fabric is fed to the nip between them. The rollers and springs may be surrounded by a casing filled with steam.

WEB WINDING APPARATUS. F. R. Nicholson (to E. I. du Pont de Nemours & Co.). USP 2 777 644, Jan. 15, 1957. (1508)

Apparatus for continuously winding a multiplicity of narrow strips of film, paper, or fabric onto individual cores, with proper web control and winding tension.

ADVANCING DEVICE FOR SHRINKABLE AND STRETCHABLE FABRICS. N. D. Landqvist (to Rydboholms AB). USP 2 780 459, Feb. 5, 1957. (1509)

Fabric strain is eliminated by means of elastic belts or pulleys, whose speed depends on the length of material passing over the rollers.

EMBOSSING. F. M. Smith and L. H. Smith (to Decora Corp.). USP 2 783 175, Feb. 26, 1957. (1510)

Fabrics woven or knitted from thermoplastic filaments or yarns are embossed by placing them between a porous web formed in the desired pattern and a flexible non-porous material, subjecting to vacuum and heat, cooling, and separating the layers.

FINISHING MACHINE FOR IMPROVING THE LUSTER AND TEXTURE OF PILE FABRICS. R. S. Schaab. USP 2 784 477, Mar. 12, 1957. (1511)

A multi-grooved heated ironing roller gives velvety or nap surface effects by straightening projecting fibers in an ironing, combing, and beating or rubbing treatment under controlled pressure.

FABRIC FEEDING APPARATUS. W. C. Gilfillan (to H. W. Butterworth & Sons Co.). USP 2 785 890, Mar. 19, 1957. (1512)

Uniform tension in feeding continuous ropes of fabric undergoing washing, dyeing, bleaching, or drying is achieved by means of coupled driving magnets operating through an air gap whose length can be adjusted to regulate the tension.

DRYING D 4

NEEDLE BARS FOR TENTERING MACHINES. C. Monforts (to A. Monforts AG). BP 743 333, Jan. 11, 1956. Through BCIRA 36: 561 (1956). (1513)

REMOVAL OF LIQUID BY RADIAL COMPRESSION. Mezza SpA (Italy). BP 746 923, Mar. 21, 1956. Through BCIRA 36: 723 (1956). (1514)

MOLTEN METAL DRYING. A. J. Howard and I. M. Hill (to Milltown Bleaching Co. Ltd). BP 747 822, Apr. 18, 1956. Through BCIRA 37: 79 (1957). (1515)

Processing fabric by passing it in continuous length through a bath of molten metal. A region of inert gas prevents the formation of a scum of oxidation products at the surface of the metal.

DRYING MACHINERY. A. F. B. Thies (to Firma B. Thies). USP Reissue 24 260, Dec. 25, 1956. Original No. 2 739 392, Mar. 27, 1956. (1516)

Apparatus for drying textiles in a closed system by heated air under superatmospheric pressure.

DRYING APPARATUS. E. Johanson (to Svenska Flaktfabriken AB). USP 2 772 486, Dec. 4, 1956. (1517)

Apparatus for drying webs by means of fine jets of a gaseous medium, while the material is moving in a substantially horizontal path.

CLOTH ROLLERS FOR NOZZLE DRIERS. J. Dungler (Switzerland). USP 2 777 213, Jan. 15, 1957. (1518)

APPARATUS FOR DRYING SYNTHETIC FABRICS AFTER DYEING. H. E. Peck. USP 2 773 312, Dec. 11, 1956. (1519)

Superheated steam under pressure dries the fabric in a few seconds and simultaneously sets the dye. Continuous dyeing and drying may be effected in equipment 15-20 feet long.

APPARATUS FOR PRODUCING CURLED YARN. L. Vandamme and L. Rouyer (to Moulinage et Retorderie de Chavanoz). USP 2 780 047, Feb. 5, 1957. (1520)

False twist is set in thermoplastic yarns by electrically heating the yarn before and after application of the twist.

DRYING MACHINERY. F. W. Sanborn and A. V. Alexeff (to Industrial Ovens, Inc.). USP 2 780 878, Feb. 12, 1957. (1521)

Drying apparatus for web material in which the length may be varied and both sides are exposed similarly.

DRYING APPARATUS. E. T. Armstrong (to Toscony Fabrics, Inc.). USP 2 783 546, Mar. 5, 1957. (1522)

Drying apparatus for continuously moving coated or printed webs in which the web is heated but the air is not.

PIN TENTER CLOTH HOLDING MEANS. F. B. Morrill (to James Hunter Machine Co.). USP 2 787 822, Apr. 9, 1957. (1523)

FESTOONING DEVICE FOR LOOP DRYING MACHINE. R. C. Parkes. USP 2 788 968, Apr. 16, 1957. (1524)

Device which eliminates physical contact between the fabric surface and any solid surface during drying.

SYNTHETIC YARN DRYING APPARATUS. H. A. Schrenk (to Am. Enka Corp.). USP 2 789 366, Apr. 23, 1957. (1525)

Dehydration roller apparatus for reducing the moisture content in an endless sheet of synthetic yarns.

SYNTHETIC YARN DRYING APPARATUS. I. Wizon (to Am. Cyanamid Co.). USP 2 789 368, Apr. 23, 1957. (1526)

Apparatus for continuous drying of synthetic filaments which permits quick removal of wrap-ups from drying rolls.

TESTING AND MEASUREMENT E

DETERMINATION OF THE MOISTURE CONTENT OF MOVING MATERIALS BY MEANS OF A RADIATION GAUGE. S. Gilman (to Ind. Machinery Co. Ltd). BP 745 917, Mar. 7, 1956. Through BCIRA 36: 703 (1956). (1527)